

**Project Management Plan  
RCRA Facility Investigation  
Wellman Dynamics Corporation  
Creston, Iowa  
USEPA ID No. IAD065218737  
Revision 2**

**October 2006**

**Prepared For:**

**Wellman Dynamics Corporation  
1746 Commerce Road  
Creston, Iowa 50801**

**Prepared By:**

**BT², Inc.  
2830 Dairy Drive  
Madison, Wisconsin 53718**

**BT² Project #2631**

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## **1.0 INTRODUCTION**

### 1.1 Purpose

This Project Management Plan (PMP) has been prepared for the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of the Wellman Dynamics Corporation (WDC) facility. The PMP represents a portion of the RFI Workplan for the WDC facility.

The purpose of the PMP is to describe the management and technical approach to be used in conducting the RFI, identify roles and responsibilities for project personnel, outline the project schedule, and describe the qualifications of personnel conducting the RFI.

The RFI Workplan and PMP were prepared in accordance with the requirements of the Administrative Order on Consent (Order) issued by the United States Environmental Protection Agency (USEPA) that became effective on January 23, 2004. A copy of the Order is provided in **Appendix A**.

### 1.2 RFI Workplan Organization

This PMP is one of six documents that compose the WDC RFI Workplan. The other five Workplan component documents include:

- Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP)
- Data Management Plan
- Health and Safety Plan
- Community Relations Plan
- Risk Assessment Workplan

These component documents reference each other and should be reviewed in combination to obtain a complete understanding of the proposed RFI.

### 1.3 Project Information

Facility Name:	Wellman Dynamics Corporation
EPA ID No:	IAD065218737
Facility Address:	1746 Commerce Road Creston, IA 50801

USEPA Project Coordinator: Patricia Murrow  
ARTD/RCAP  
U.S. Environmental Protection Agency  
901 North 5th Street  
Kansas City, KS 66101  
913-551-7627

Facility Project Coordinator: Joe Haller, Environmental Engineer  
Facility address above  
641-782-8521, ext. 206

Corporate Contact: E. Jonathan Jackson  
Environmental and Safety Compliance Director  
Fansteel, Inc.  
Deerbrook Corporate Center, Suite 200  
570 Lake Cook Road  
Deerfield, IL 60015  
847-689-4900, ext. 553

Consultant Contact for RFI Workplan: Sherren Clark, P.E., P.G., Project Manager  
BT<sup>2</sup>, Inc.  
2830 Dairy Drive  
Madison, WI 53718-6751  
608-216-7323

## **2.0 FACILITY BACKGROUND**

A complete description of the site history, operations, and environmental conditions at the facility can be found in the Final Current Conditions Report (CCR)(BT<sup>2</sup>, 2005). The following subsections provide a summary of the site background.

### **2.1 Facility Description and History**

WDC is located at the northwest corner of the intersection of U.S. Highway 34 and Osage Street in the Creston Industrial Park in Union County, Iowa. The facility is located just outside of the City of Creston corporate limits in the Township of Highland, but is served by City water and sewer. The WDC property includes an area of approximately 42 acres.

The facility was originally constructed in 1965 as an aluminum and magnesium foundry and has been used for the same purpose since that time. The facility was initially owned by Hills McCanna Corporation of Chicago, Illinois, and then was operated by a variety of owners from 1971 to 1985. In 1985, Beatrice Corporation sold the facility to Fansteel, Inc. WDC is a wholly owned subsidiary of Fansteel, Inc.

WDC manufactures magnesium and aluminum alloy castings primarily for the aerospace industry. Products include complex components for helicopters, missiles, rocket engines, jet engines, and structural parts for both military and commercial aircraft, such as the Bell/Boeing V-22 Tilt Rotor, the Rolls Royce/BMW BR710 jet engine, and the Pratt and Whitney alternate turbopump for the Space Shuttle main engines. Non-aerospace applications have included 1,600-pound magnesium transfer pumps for the oilfield industry and porosity-free castings for computer chip manufacturing. Various magnesium and aluminum alloys are cast to achieve specific final properties.

The facility includes two main buildings and several smaller outbuildings. The main production building is approximately 285,000 square feet in area and houses the administrative offices, foundry, and supporting operations. The second major building is the pattern storage and warehouse building, located north of the main production building. Outbuildings include several storage sheds, the effluent sewer shed, and the guard shack.

Foundry operations are conducted in the main production building. Foundry operations include melting the solid metal, pouring the liquid metal into a mold, and allowing the metal to solidify. The solidified metal part, known as a casting, goes through several cleaning, inspection, and testing steps prior to shipping to the customer.

## 2.2 Environmental Issues and RFI Areas of Investigation

The CCR describes in detail the known contaminants in soil and groundwater at the WDC facility and the areas in which the contaminants are found. The RFI will focus on investigating the degree and extent of contamination at the facility and evaluating the risk posed to human health and the environment by site contaminants.

The RCRA Facility Assessment performed by a United States Environmental Protection Agency (USEPA) contractor in 1993 identified 12 solid waste management units (SWMUs) at the WDC facility. The CCR includes a preliminary evaluation of the current status and the need for further action at the 12 SWMUs plus two additional areas of concern (AOCs) identified since the RFI was performed. Of the 12 SWMUs, nine are proposed to be included in the RFI. The SWMUs and AOCs are summarized in **Table 1.**

### **3.0 OVERALL MANAGEMENT APPROACH**

The technical objectives for the RFI include the following:

- To determine the nature and extent of any release of hazardous wastes and/or hazardous constituents at or from the facility
- To determine whether environmental contamination related to any releases poses an unacceptable risk to human health or the environment
- To gather data to support a Corrective Measures Study, if required

Additional management objectives include the following:

- To collect the data needed to complete the site characterization and risk assessment in the most efficient and cost-effective manner
- To maintain clear communication between the facility, regulators, and contractors as the project progresses.

To achieve these objectives, the overall management approach includes the following elements:

- The RFI will be focused on obtaining the data needed to complete the risk assessment.
- Existing data will be used to the extent feasible, with the RFI field activities designed to fill in the data gaps.
- For purposes of the RFI field investigations and data evaluation, SWMUs and AOCs will be grouped into investigation areas where appropriate based on physical proximity and contaminants of concern.
- A phased approach will be used to ensure that all data needed for the risk assessment are collected in an efficient manner.

For some areas of investigation, the proposed RFI work scope described in the SAP/QAPP includes multiple steps, with “if-then” statements outlining the conditions under which the additional work will be done. As the field activities outlined in the SAP/QAPP are performed, the data will be evaluated to determine if it is adequate to meet the RFI objectives. If additional data are needed beyond the investigation steps described in this document, a SAP/QAPP addendum will be submitted and additional data will be collected prior to completion.

The proposed project schedule is shown on **Figure 1**. The schedule is based on the RFI workplan approval on September 25, 2006

## **4.0 TECHNICAL APPROACH**

### 4.1 RFI Field Activities

The technical approach for the RFI field activities is outlined in detail in the SAP/QAPP. The RFI will include the investigations necessary to:

- Characterize the facility
- Define the source(s) of contamination
- Define the degree and extent of contamination
- Identify actual or potential receptors
- Support completion of a risk assessment
- Support development and evaluation of corrective measure alternatives, if required

Field activities will be performed by a BT<sup>2</sup> field crew. The field crew will generally be led by the BT<sup>2</sup> Project Technical Coordinator or by a designated Field Team Leader. The Field Team Leader will be an experienced engineer or geologist. For sampling activities, the Field Team Leader may be assisted by one or more technicians or engineers or geologists.

### 4.2 Data Evaluation

Field and laboratory data collected for the RFI will be reviewed, tabulated, and validated as described in the SAP/QAPP and the Data Management Plan (DMP). Data from previous investigations will be reviewed, tabulated, and assessed as described in the SAP/QAPP. Data that meet the project data quality criteria will be used in the risk assessment.

At the conclusion of the initial phase of field investigation, the data will be reviewed to determine if additional field activities will be needed in order to complete the risk assessment and evaluate corrective measures, if needed.



## **5.0 RFI PERSONNEL RESPONSIBILITIES AND QUALIFICATIONS**

A project organization chart is provided on **Figure 2**. The individuals participating in the WDC project and their specific roles and responsibilities are outlined in the following sections.

### 5.1 USEPA Project Coordinator

The USEPA Project Coordinator is responsible for overseeing the implementation of the Order on behalf of the USEPA, including the completion of the RFI. He or she may designate a person to act in his or her absence. To the maximum extent practicable, communications between WDC and USEPA will be directed through the USEPA Project Coordinator. In addition, all documents, reports, and other correspondence related to the RFI or any other aspect of the Order will be directed to the USEPA Project Coordinator. The current USEPA Project Coordinator is Patricia Murrow. Her contact information is listed in **Section 1.3**.

### 5.2 WDC Project Coordinator

The WDC Project Coordinator is responsible for overseeing the implementation of the Order on behalf of WDC, including the completion of the RFI. He or she may designate a person to act in his or her absence. To the maximum extent practicable, communications between WDC and USEPA will be directed through the WDC Project Coordinator. The WDC Project Coordinator will also maintain the records associated with the Order, including documents, data, and correspondence, in a centralized location at the WDC facility. The current WDC Project Coordinator is Joe Haller. His contact information is listed in **Section 1.3**.

### 5.3 Fansteel Environmental and Safety Compliance Director

The Fansteel Environmental and Safety Compliance Director will assist the WDC Project Coordinator in overseeing the implementation of the Order and completion of the RFI. WDC is a wholly owned subsidiary of Fansteel, Inc. The current Fansteel Environmental and Safety Compliance Director is Jon Jackson. His contact information is listed in **Section 1.3**.

### 5.4 Consultant Project Manager

The consultant Project Manager has primary responsibility for completing all RFI activities and communicating with WDC. The Project Manager provides technical leadership and is also responsible for control of the project schedule and budget. The Project Manager has primary responsibility for development of all project documents and other deliverables. The current consultant Project Manager is

Sherren Clark. Her contact information is listed in **Section 1.3**, and her resume is provided in the SAP/QAPP.

#### 5.5 Consultant Project Technical Coordinator

The consultant Project Technical Coordinator assists the Project Manager with completing all RFI activities and is a second point of communication with WDC. The Project Technical Coordinator manages the field team and coordinates data management and report preparation activities. The current consultant Project Technical Coordinator is Stephen Sellwood. His resume is included in the SAP/QAPP.

#### 5.6 Risk Assessment Consultant

The Risk Assessment Consultant will provide technical direction for completion of the risk assessment component of the RFI as a subcontractor to BT<sup>2</sup>. The Risk Assessment Consultant is M. Carol McCartney. Her resume is included in the SAP/QAPP.

#### 5.7 Laboratory QA Officer

The Laboratory Quality Assurance (QA) officer will manage the laboratory QA program and will review and verify the laboratory data. TestAmerica Analytical Corporation of Cedar Rapids, Iowa, is the proposed laboratory. Mark McGowan is the current laboratory QA officer. His resume is included in the SAP/QAPP.

### **6.0 RFI SCHEDULE**

#### 6.1 RFI Field Activities

Field activities will be completed following the proposed project schedule presented in **Figure 1**. Depending on the results of the initial sampling, additional field activities may be performed prior to preparation of the RFI Report. The approach for evaluating the initial results and planning and scheduling potential additional field activities is outlined in the SAP/QAPP. If the schedule needs to be revised to accommodate additional activities, an updated schedule will be provided to the USEPA with the next quarterly progress report submitted as described in **Section 6.3**.

#### 6.2 RFI Reporting Activities

The RFI Report will be submitted to USEPA within 90 days of the completion of the RFI activities. The final RFI activity will be completion of the risk assessment. The risk assessment is scheduled to be completed within 90 days of completion of data validation. Data validation will be completed within 90

days of the last field sampling event. Therefore, the due date for the RFI will be established at 270 days from the date of the last field sampling event.

### 6.3 Progress Reports

In accordance with the Order, progress reports will be submitted to USEPA on a quarterly basis. Progress reports are due by the 15th day of the month following the end of each quarter (i.e., January 15, April 15, July 15, October 15). Each quarterly report will include the following information:

- A description of the RFI activities completed during the reporting period
- Summaries of all contacts, during the reporting period, with representatives of the local community, public interest groups, or State government concerning RFI activities at the facility
- Summaries of all problems or potential problems encountered during the reporting period
- Actions being taken to rectify problems
- Changes in project coordinator, principal contractor, laboratory, and/or consultant during the reporting period
- Projected work for the next reporting period
- Copies of laboratory/monitoring data received and/or generated during the reporting period
- EPA identification number (IAD065218737) on the cover or title page

## **7.0 BUDGET MANAGEMENT**

The RFI activities will be funded by WDC. The project budget will be finalized on approval of the workplan. The budget status will be tracked and reported to WDC on a monthly basis, along with an update on activities completed. If the scope of the RFI activities changes, a revised budget will be provided to WDC for review and approval.

## **8.0 REFERENCES**

BT<sup>2</sup>, Inc., 2005, Final Current Conditions Report, Wellman Dynamics Corporation, Creston, Iowa, USEPA ID No. IAD065218737, June 2005.

**TABLE**

1	Solid Waste Management Units and Areas of Concern
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**Table 1**  
**Solid Waste Management Units and Areas of Concern**  
**Wellman Dynamics Corporation / Sampling and Analysis Plan/Quality Assurance Project Plan**

<b>SWMU or AOC Designation</b>	<b>Name</b>	<b>Environmental Issues</b>	<b>RFI Status</b>
SWMU 1	Former Wastewater Treatment Sludge Storage Area	Wastewater treatment sludge formerly stored in this area contained chromium above regulatory levels.	No further action required. USEPA certified closure of this unit in 2003.
SWMU 2	Current Wastewater Treatment Sludge Storage Area	Wastewater treatment sludge currently stored in this area contains chromium above regulatory levels and is properly managed as a hazardous waste. There is no evidence of a release to the environment from this storage area.	Limited soil sampling will be performed to confirm that there has not been a release to the environment.
SWMU 3	Spent Solvent Storage Area	A small number of drums of spent solvents, including tetrachloroethylene, were formerly stored at this location inside the main production building. There is no evidence of a release to the environment from this area and a very low potential that a release would have occurred.	No further action required.
SWMU 4	Spent Chromic Acid AST and Containment Structure	Spent chromic acid was formerly stored in this above-ground storage tank (AST). Past investigation has indicated that chromium contamination is present in the soil and groundwater in the immediate vicinity of the former AST. Contaminated soil has been excavated from this area and groundwater monitoring is ongoing.	Additional investigation will be completed to evaluate the nature, extent, and potential exposure risks associated with the chromium remaining in soil and groundwater in this area.

**Table 1 (continued)**  
**Solid Waste Management Units and Areas of Concern**  
**Wellman Dynamics Corporation / Sampling and Analysis Plan/Quality Assurance Project Plan**

<b>SWMU or AOC Designation</b>	<b>Name</b>	<b>Environmental Issues</b>	<b>RFI Status</b>
SWMU 5	Spent Chromic Acid Transfer Tank	This mobile transfer tank was formerly used to transport spent chromic acid from the process tank where it was used in the plant to the spent chromic acid AST. There is no documentation of a release for the transfer tank.	No further action required specifically for this SWMU. If a release did occur, it most likely would have occurred in the loading or unloading areas, which will be investigated under SWMUs 4 and 10.
SWMU 6	Wastewater Treatment System	The wastewater treatment system treats waste acids from the etch line prior to discharge to the city sewer system, including hydrofluoric, nitric, sulfuric, and chromic acids. There are no known releases to the soil or groundwater, but there may be a potential for a release depending on the integrity of the containment systems.	Additional investigation will be completed to determine if a past release has occurred.
SWMU 7	Waste Methanol Drum Storage Area	A small number of drums of waste methanol (spent solvent) were formerly stored in this area. There is no evidence of a past release and a limited potential that a release would have occurred. Even if a release had occurred, methanol breaks down rapidly in the environment and would not likely be present today.	Limited soil sampling will be performed to confirm that there has not been a release to the environment.

**Table 1 (continued)**  
**Solid Waste Management Units and Areas of Concern**  
**Wellman Dynamics Corporation / Sampling and Analysis Plan/Quality Assurance Project Plan**

<b>SWMU or AOC Designation</b>	<b>Name</b>	<b>Environmental Issues</b>	<b>RFI Status</b>
SWMU 8	Former Magnesium Dross Storage Area	A large number of drums of magnesium dross and magnesium-barium dross (foundry waste) were stored in this area awaiting treatment to reclaim magnesium, and spills of dross on the soil surface have been documented. Sampling during the RFA indicated that the soil contains barium and chromium. A portion of the dross storage area is regulated separately by the Iowa Department of Public Health (IDPH) due to radiological constituents.	Additional investigation will be completed to evaluate the nature and extent of contamination in soil and potentially in groundwater in this area; however, the RFI will not address the area regulated by IDPH, which is the subject of a separate investigation.
SWMU 9	Magnesium Dross Treatment Area	The magnesium dross is treated to reclaim scrap magnesium. The treatment process produces a magnesium-hydroxide sludge as the final waste product, which is disposed of in the on-site landfill under a permit from the Iowa Department of Natural Resources (IDNR). Although the treatment is generally performed within a concrete confinement area, there is some potential for a release to the environment because the containment is not complete and because untreated dross is stockpiled in the surrounding area.	Additional investigation will be completed to determine if soil and groundwater in this area have been impacted by the dross and, if so, to evaluate the extent and degree of contamination.

**Table 1 (continued)**  
**Solid Waste Management Units and Areas of Concern**  
**Wellman Dynamics Corporation / Sampling and Analysis Plan/Quality Assurance Project Plan**

<b>SWMU or AOC Designation</b>	<b>Name</b>	<b>Environmental Issues</b>	<b>RFI Status</b>
SWMU 10	Waste Acid Collection Pit	The waste acid collection pit is a concrete pit below the acid etch line in the plant. The pit collects overflow and wastewater from the process and rinse tanks. Acids collected include chromic, hydrofluoric, sulfuric, nitric, and acetic acids. There are no known releases to the environment, but the integrity of the concrete pit is not known.	Additional investigation will be completed to evaluate the potential of a release to soil and groundwater from this area.
SWMU 11	Waste Acid Dump Pit	Prior to 1971, waste acids were disposed of in the waste acid dump pit, which contained limestone intended to neutralize the acids. This area has been investigated in conjunction with SWMU 4 and it appears that both SWMUs have contributed to a merged area of chromium contamination in the soil and groundwater.	Additional investigation will be completed to evaluate the nature, extent, and potential exposure risks associated with the chromium remaining in soil and groundwater in this area.
SWMU 12	Landfill	The landfill is used for disposal of foundry sand, baghouse dust, and treated magnesium dross. A portion of the landfill area is regulated by IDPH due to former disposal of low-level radioactive thorium process sludge. The landfill is permitted and regulated by the IDNR solid waste program. Previous sampling has indicated elevated concentrations of fluoride and sulfate downgradient of the landfill.	Additional investigation will be completed to determine the nature and extent of groundwater contamination downgradient from the landfill area and to evaluate the potential risks associated with the contamination. Other issues associated with the landfill will not be included in the RFI and will continue to be regulated by the IDNR and/or IDPH.



**Table 1 (continued)**  
**Solid Waste Management Units and Areas of Concern**  
**Wellman Dynamics Corporation / Sampling and Analysis Plan/Quality Assurance Project Plan**

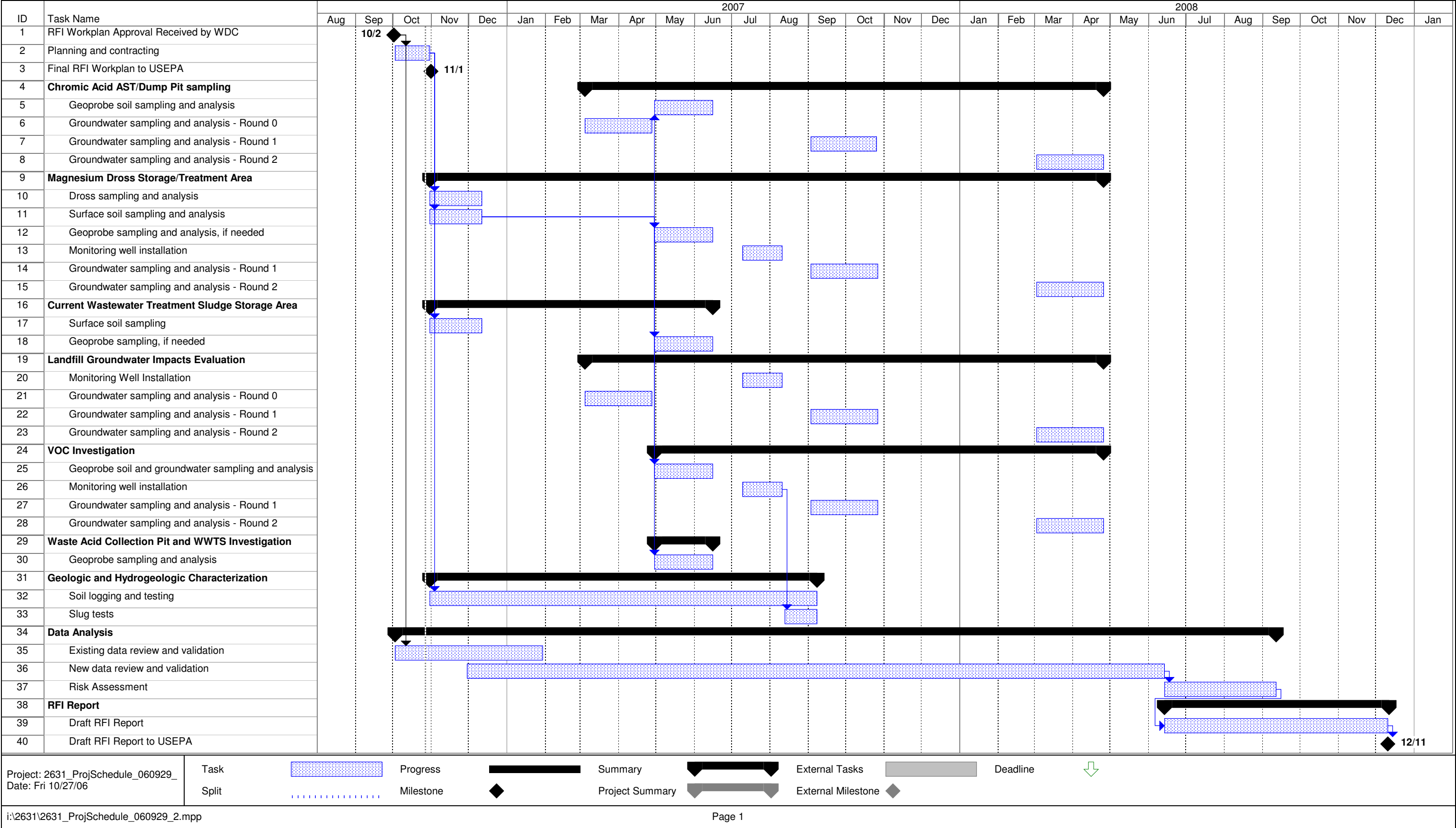
<b>SWMU or AOC Designation</b>	<b>Name</b>	<b>Environmental Issues</b>	<b>RFI Status</b>
AOC A	Chlorinated Solvents in Soil and Groundwater	During a 1998 voluntary environmental assessment, chlorinated solvents including tetrachloroethylene (PCE), trichloroethylene, and other chlorinated compounds were detected in soil and groundwater samples collected on-site. In one of the areas where groundwater contamination was detected, a PCE spill occurred in 1998 after the samples were collected and may have added to the solvent contamination this area.	Additional investigation will be completed to define the nature and extent of chlorinated solvent contamination in the soil and groundwater and to evaluate potential exposure pathways and risks.
AOC B	Petroleum Product AST Area	ASTs are or were used to store gasoline, diesel fuel, and kerosene in this area. Sampling as part of the 1998 voluntary environmental assessment indicated very low levels of soil contamination and did not detect petroleum contamination in groundwater.	Although the initial sampling indicated only limited contamination, some additional investigation will be completed to determine the degree and extent of petroleum contamination to soil and groundwater in this area.

SWMU = Solid Waste Management Unit  
AOC = Area of Concern

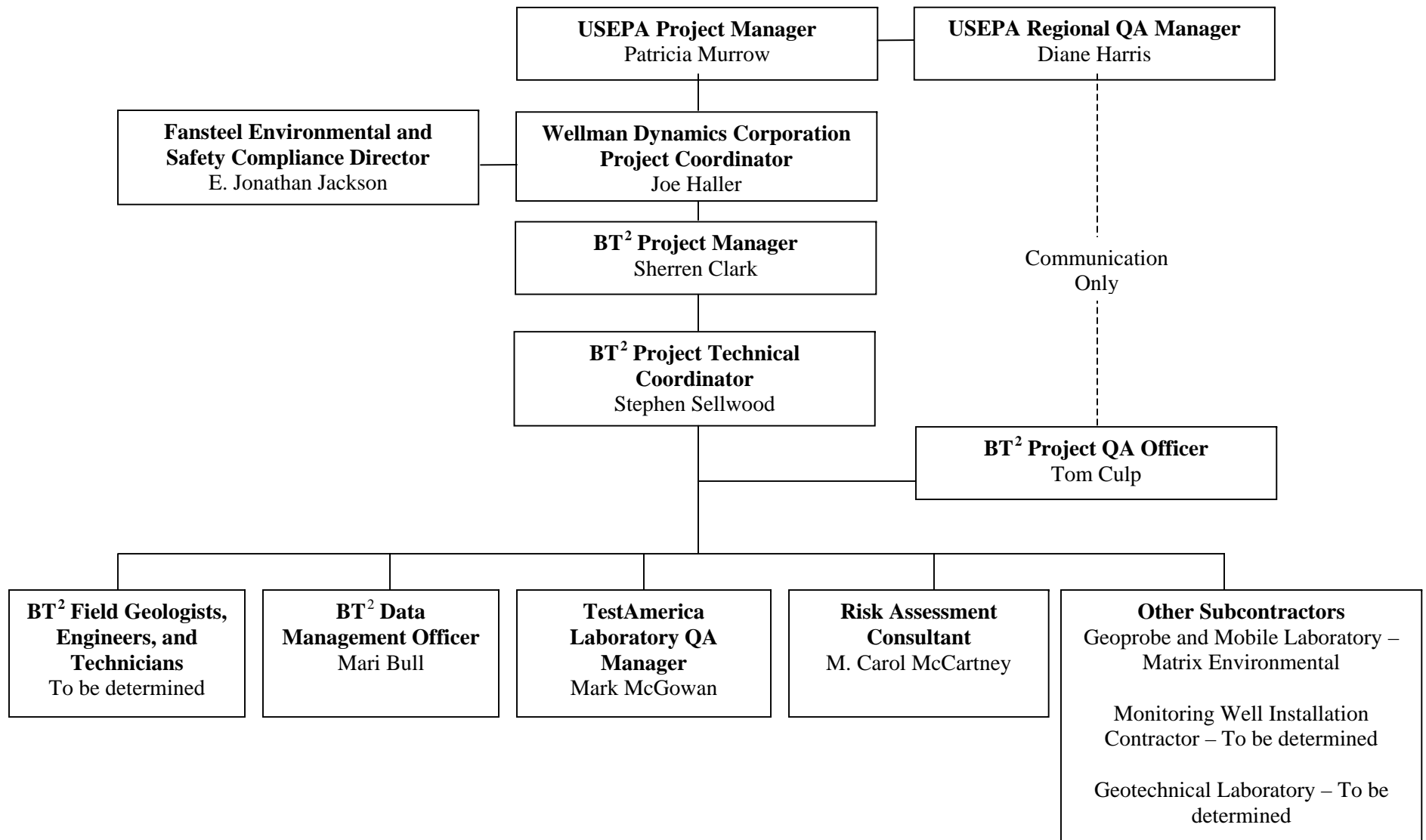
## **FIGURES**

- 1 Proposed Project Schedule
- 2 Project Organization Chart

Figure 1  
Proposed Project Schedule  
RCRA Facility Investigation Workplan  
Wellman Dynamics Corporation



**Figure 2**  
**Project Organizational Chart**  
**RCRA Facility Investigation Workplan**  
**Wellman Dynamics Corporation, Creston, Iowa**



## **APPENDIX A**

### **Administrative Order On Consent**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VII  
901 NORTH 5<sup>TH</sup> STREET  
KANSAS CITY, KANSAS 66101

IN THE MATTER OF:

WELLMAN DYNAMICS CORPORATION  
1746 COMMERCE ROAD  
CRESTON, IOWA 50801

EPA I.D. IAD065218737

RESPONDENT

Proceeding under Section 3008(h) of the  
Resource Conservation and Recovery Act,  
as amended, 42 U.S.C. § 6928(h).

EPA Docket No.  
RCRA-07-2003-0167

**ADMINISTRATIVE ORDER ON CONSENT**

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Attachment 1 - Site Map

Attachment 2 - Scope of Work for RCRA Facility Investigation

Attachment 3 - Scope of Work for Corrective Measures Study



## **I. JURISDICTION**

1. This Administrative Order on Consent ("Order") is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 3008(h) of the Solid Waste Disposal Act, 42 U.S.C. § 6928(h), as amended by the Resource Conservation and Recovery Act of 1976 and the Hazardous and Solid Waste Amendments of 1984. (The Solid Waste Disposal Act, as amended, is referred to herein as "RCRA".) The authority vested in the Administrator to issue orders pursuant to Section 3008(h) of RCRA has been delegated to the Administrators of EPA's Regional offices by EPA Delegation Nos. 8-31 and 8-32 dated April 16, 1985, and has been further delegated by the Regional Administrator for Region VII to the Director of Region VII's Air, RCRA, and Toxics Division, by EPA Regional Delegations R7-8-31 and R7-8-32.

2. This Order is issued to Wellman Dynamics Corporation ("Respondent"), the owner and operator of a facility located at 1746 Commerce Road, Creston, Union County, Iowa (the "Facility"). The location of the Facility is depicted on Attachment 1.

3. Respondent consents to and agrees not to contest EPA's jurisdiction to issue this Order or to enforce its terms. Further, Respondent agrees not to contest EPA's jurisdiction to: compel compliance with this Order in any subsequent enforcement proceedings, either administrative or judicial; require Respondent's compliance with this Order; or impose sanctions for violations of this Order.

## **II. STATEMENT OF PURPOSE**

In entering into this Order, the mutual objectives of EPA and Respondent are: (1) to perform a RCRA Facility Investigation ("RFI") to determine the nature and extent of any release of hazardous wastes and/or hazardous constituents at or from the Facility; and as appropriate, (2) to perform a Corrective Measures Study ("CMS") to identify and evaluate corrective action alternatives necessary to remediate contaminated media to levels protective of human health and the environment. This Order does not include requirements for the characterization/corrective action of radiological constituents at the Facility currently being addressed by the Iowa Department of Public Health.

### **III. PARTIES BOUND**

1. This Order shall apply to and be binding upon EPA, Respondent and its agents, successors and assigns, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent.
2. No change in ownership or corporate status relating to the Facility will in any way alter Respondent's responsibility under this Order. No conveyance of any property interest in the Facility, or any portion of the Facility, shall affect Respondent's obligations under this Order. Respondent is responsible for and liable for any failure to carry out all activities required of it by this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform any such tasks.
3. Respondent shall provide a copy of this Order to all contractors, laboratories, and consultants retained to conduct or monitor any portion of the work performed pursuant to this Order within 14 days of the effective date of this Order or the date of retention of such person(s), whichever occurs later, and shall condition all such contracts on compliance with the terms of this Order.
4. Respondent shall give written notice of this Order to any successor in interest prior to transferring ownership or operation of the Facility or a portion thereof and shall notify EPA in writing within 30 days prior to such transfer.
5. Respondent agrees to undertake all actions required by this Order, including any portions of this Order incorporated by reference. Respondent waives any right to request a hearing on this matter pursuant to Section 3008(b) of RCRA and 40 C.F.R. Part 24, and consents to the issuance of this Order without a hearing pursuant to Section 3008(b) of RCRA as a Consent Order issued pursuant to Section 3008(h) of RCRA.

### **IV. FINDINGS OF FACT**

1. Respondent Wellman Dynamics Corporation is a Delaware corporation authorized to do business in Iowa. Respondent is a wholly-owned subsidiary of Custom Technologies Corporation, a Delaware corporation. Custom Technologies Corporation is a wholly-owned subsidiary of Fansteel Holdings, Inc., a Delaware corporation. Fansteel Holdings is a wholly-owned subsidiary of Fansteel Inc., a Delaware corporation.

2. Respondent is a generator of hazardous wastes and the owner/operator of the Facility. The Facility is a hazardous waste management facility located at 1746 Commerce Road in Creston, Iowa. Respondent has engaged in the treatment, storage, and disposal of hazardous wastes at the Facility subject to the interim status requirements of Section 3005 of RCRA, 42 U.S.C. § 6925, and regulations promulgated thereunder at 40 C.F.R. Part 265.

3. The Facility was constructed in 1965 and, at that time, was owned and operated by Hills McKenna Corporation. Various other owners operated the Facility from 1971 until 1985. These previous owners operated the Facility as a hazardous waste management facility on or after November 19, 1980, the applicable date which renders facilities subject to interim status requirements or the requirement to have a permit under Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925.

4. On or about August 7, 1980, Creston Corporation submitted to EPA a Notification of Hazardous Waste Activity. In this Notification the Facility was identified as a facility where hazardous wastes were generated as well as a facility where hazardous wastes are treated, stored, or disposed of. As a result of this notification, EPA assigned the Facility the EPA I.D. Number IADO65218737.

5. On or about November 10, 1980, Creston Corporation submitted to EPA a Hazardous Waste Permit Application. This Application indicated that the Facility had hazardous waste tank storage process design capacity of 10,000 gallons and the capacity to treat up to 33,600 gallons per day of hazardous wastes in tanks. In this Application it was estimated that on an annual basis, 880,000 pounds of chromium hazardous waste (designated a D007 waste per 40 C.F.R. Part 261), were stored and/or treated at the Facility.

6. On or about March 11, 1983, Wellman Dynamics Corporation submitted to EPA a subsequent Hazardous Waste Permit Application. In this Application it was indicated that the Facility had hazardous waste tank storage process design capacity of 5,000 gallons and hazardous waste container storage process design capacity of 55 gallons (later corrected to indicate 4,675 gallons rather than 55 gallons). In this Application it was estimated that on an annual basis 200,000 pounds of chromium hazardous waste were stored at the Facility, as were 120,000 gallons of corrosive hazardous waste (designated a D002 waste per 40 C.F.R. Part 261).

7. On or about April 5, 1983, EPA notified Wellman Dynamics Corporation that the Facility had met the requirements of Section 3005(e) of RCRA, 42 U.S.C. § 6925(e), for interim status.

8. In 1983-84, EPA conducted a Preliminary Assessment of the Facility to assess it according to its hazard potential. The Preliminary Assessment report, dated February 2, 1984, identified a waste pit at the Facility used for the disposal of waste acids. It was estimated that approximately 10,000 gallons of waste acid were disposed of in the waste pit. The acids consisted of a mixture of hydrofluoric, nitric, sulfuric, and chromic acid.

9. In 1985, the Beatrice Corporation sold the Facility to Fansteel Inc. On or about February 23, 1987, Respondent submitted to EPA a revised Hazardous Waste Permit Application. In this Application it was indicated that the Facility had hazardous waste tank storage process design capacity of 5,000 gallons, and hazardous waste container storage process design capacity of 81,675 gallons. In this Application it was estimated that on an annual basis, 120,000 pounds of corrosive hazardous waste, 200,000 pounds of chromium hazardous waste, and 700 pounds of reactive hazardous wastes were stored at the Facility.

10. On or about October 27, 1987, Respondent submitted to EPA a revised Hazardous Waste Permit Application for the Facility. In this Application it was indicated that the Facility had hazardous waste tank storage process design capacity of 5,000 gallons, and hazardous waste container storage process design capacity of 81,675 gallons. In this Application it was estimated that on an annual basis, 100 cubic yards of chromium hazardous waste, 155 gallons of spent halogenated hazardous waste solvents, 120,000 pounds of corrosive and chromium hazardous waste, 200,000 pounds of chromium hazardous waste, and 700 pounds of reactive hazardous waste were stored at the Facility.

11. A contractor for EPA, Metcalf and Eddy, Inc. ("M&E"), conducted a RCRA Facility Assessment ("RFA") at the Facility on April 7, 1993. The RFA consisted of a Preliminary Review and Visual Site Inspection. M&E submitted the final RFA report to EPA on October 8, 1993. The following twelve solid waste management units ("SWMUs") were identified at the Facility:

- a. SWMU No. 1 - Former Wastewater Treatment Sludge Storage Area

- b. SWMU No. 2 - Current Wastewater Treatment Sludge Storage Area
- c. SWMU No. 3 - Spent Solvent Storage Area
- d. SWMU No. 4 - Spent Chromic Acid Above-Ground Storage Tank and Containment Structure
- e. SWMU No. 5 - Spent Chromic Acid Transfer Tank
- f. SWMU No. 6 - Wastewater Treatment System
- g. SWMU No. 7 - Waste Methanol Drum Storage Area
- h. SWMU No. 8 - Former Magnesium Dross Storage Area
- i. SWMU No. 9 - Magnesium Dross Treatment Area
- j. SWMU No. 10 - Waste Acid Collection Pit
- k. SWMU No. 11 - Waste Acid Dump Pit
- l. SWMU No. 12 - Landfill

12. On or about April 7, 1993, Respondent initiated closure activities for SWMU No. 1, the Former Wastewater Treatment Sludge Storage Area, in accordance with the EPA approved Revised Closure Plan submitted to EPA in August 1992. As summarized in a May 24, 1993 letter to EPA, these activities resulted in clean closure of this SWMU consistent with the EPA approved Revised Closure Plan. The Closure Certification Report for this SWMU was submitted to EPA for approval on December 13, 1994.

13. On or about April 7, 1993, Respondent initiated closure activities for SWMU No. 4, the Spent Chromic Acid Above-Ground Storage Tank, in accordance with the EPA approved Revised Closure Plan submitted to EPA in August 1992. Closure activities included appropriate cleaning/disposal of the storage tank, concrete tank containment pad, excavation/disposal of soils containing chromium above its clean closure standard. During soil remediation activities for SWMU No. 4, SWMU No. 11, the Waste Acid Dump Pit, was encountered. Additional closure activities completed during 1993 through 1995 addressed both of these SWMUs and included soil and groundwater investigations and soil removal. Soil remediation activities included the removal of the Waste Acid Dump Pit (SWMU No. 11) and associated contaminated soil. Soil and groundwater data from these additional closure activities were submitted to the EPA. Results indicated residual chromium concentrations in soil and groundwater remained above

clean closure levels.

14. Hazardous wastes or hazardous constituents have been or may be released into the environment from the above-referenced SWMUs, and have migrated or may migrate into the environment:

a. Surface water: There is a potential for release of hazardous wastes or hazardous waste constituents to the environment from several of the SWMUs located at the Facility via surface water runoff. Specifically, there have been documented releases of hazardous waste constituents from SWMU No. 8, the Former Magnesium Dross Storage Area. Since the quantity of hazardous wastes released from SWMU No. 8 is unknown, the extent of the release has not been adequately assessed. Also, at the time that the RFA was conducted there was a high potential for release from SWMU No. 12, the Landfill, to surface water. Water samples from lagoons located at the Facility which collect leachate from SWMU No. 12 have shown the presence of aluminum, fluoride, and magnesium which exceed the established Secondary Maximum Contaminant Levels set forth in 40 C.F.R. Part 143.

b. Soils: There is a potential that past releases of hazardous waste or hazardous waste constituents at the Facility may have affected soils at several SWMUs. At SWMU No. 4, the Spent Chromic Acid Above-Ground Storage Tank and Containment Structure, and at SWMU No. 11, the Waste Acid Dump Pit, residual chromium concentrations above clean closure levels remain in soils following closure activities. There have been documented spills of hazardous wastes at SWMU No. 8 and the spilled hazardous wastes may have come into direct contact with the ground surface. The degree and extent of potential contamination has not been adequately assessed.

c. Groundwater: There is a potential that past releases at the Facility have affected the groundwater based on potential releases to the soil and depth to groundwater. At SWMU Nos. 4 and 11, soil samples taken during closure activities for these two SWMUs indicated chromium concentrations above background at depth. Therefore, groundwater in this area may have been affected by releases into the soil. At SWMU No. 12, the Landfill, several constituents including sulfate and fluoride have been detected in the groundwater. SWMU No. 12 is permitted by the Iowa Department Natural Resources ("IDNR"), permit number

88-SDP-4-86P ("Landfill Permit"). On December 2, 2002, the IDNR issued Special Provision No. 9 to the Landfill Permit, wherein the IDNR agreed to allow the EPA and Respondent address any potential fluoride and sulfate groundwater issues under this Order.

d. Air: At SWMU No. 9, the Magnesium Dross Treatment Area, there appears to be the potential for releases to the air due to the nature of the treatment process. SWMU No. 10, the Waste Acid Collection Pit, was uncovered, allowing acids and other hazardous wastes which may have accumulated in this SWMU to evaporate into the air.

15. The hazardous wastes or hazardous constituents generated, stored, and/or treated at the Facility pose a threat to human health or the environment.

a. Chromium - Chromium is a naturally occurring element found in rocks, animals, plants, and soil. Chromium is present in the environment in several forms. The most common forms are trivalent (or chromium (III)) and hexavalent (or chromium (VI)). Chromium (III) occurs naturally in the environment. Chromium (VI) is generally produced by industrial processes. No known taste or odor is associated with chromium compounds. Chromium compounds, mostly in chromium (III) or chromium (VI) forms, produced by the chemical industry are used for chrome plating, the manufacture of dyes and pigments, leather tanning, and wood preserving. Exposure to chromium occurs by breathing air, drinking water or eating food containing chromium, or through skin contact with chromium or chromium compounds. In general, chromium (VI) is absorbed by the body more easily than chromium (III) and is also more toxic. Breathing high levels (greater than 2 micrograms per cubic meter) chromium (VI) as in a compound known as chromic acid, can cause irritation to the nose, such as runny nose, sneezing, itching, nosebleeds, ulcers, and holes in the septum. Long term exposure to chromium has been associated with lung cancer in workers exposed to levels in air that were 100 to 1,000 times higher than those found in the natural environment. Workers handling liquids or solids containing chromium (VI) have developed skin ulcers. Exposure to chromium (III) is less likely than exposure to chromium (VI) to cause skin rashes in chromium sensitive people. Children who live near waste sites where chromium is found may potentially be exposed to higher environmental levels of chromium through breathing, touching soil, and/or eating contaminated soil.

b. Tetrachloroethylene (PCE) - PCE is a synthetic chemical with no natural source. It is used as a solvent for organic substances, a metal degreaser, and a dry cleaning solvent. PCE has a specific gravity of 1.62 and will tend to sink in water. PCE is very mobile in the soil and readily migrates to ground water, where volatilization does not occur. Under anaerobic conditions in a biotic reaction, PCE has been reported to degrade to TCE, then to isomers of dichloroethylene (cis/trans 1,2,-DCE or 1,1-DCE), then to vinyl chloride, and finally ethene. Repeated dermal contact may cause a dry, scaly, and fissured dermatitis. High concentrations may produce eye and nose irritation. Acute exposure to PCE may cause central nervous system depression, hepatic injury, and anesthetic death. Symptoms of overexposure, include malaise, dizziness, headache, increased perspiration, fatigue, staggering gait, and slowing of mental ability. The MCL for PCE as set forth in 40 C.F.R. Part 141 is 5 micrograms per liter. The Department of Human Health and Services labeled PCE as a potential carcinogen, based on rat and mice assays (i.e., laboratory animal exposure studies).

c. Lead - Lead contamination in the environment is a significant threat to public health. Exposures may occur via inhalation of fumes or particulates, or ingestion of contaminated water, soil, or dust. Young children and the developing fetus are at particular risk of central nervous system damage from lead exposure. Low-level lead exposure in children is also associated with reduced growth and hearing deficits. Adult exposures to lead can have significant impacts on children since lead readily crosses the placenta/blood barrier during pregnancy. Adult workers may bring lead dust home on the skin and clothes and thereby expose young family members. Lead is absorbed via inhalation and ingestion and accumulates in the body with a half-life in blood of approximately 25 days; in soft tissue, about 40 days; and in bone, more than 25 years. Adults also experience central nervous system effects, manifested by behavioral changes, fatigue, and impaired concentration. Peripheral neuropathy from lead exposure is primarily seen in adults. Lead poisoning can also result in colic, anemia, nephropathy, encephalopathy, and death. Among pregnant women exposed to lead there is increased frequency of miscarriage, stillbirth, and premature birth, as well as reduced birth weight. The EPA's risk-based screening level for lead in residential soil is 400 mg/kg. The U.S. EPA Office of Water has established a Health Advisory action level of 15 micrograms per liter



for lead in drinking water. The Center for Disease Control's action level for blood lead in children is 10 micrograms per deciliter.

16. The City of Creston obtains its water from Summit Lake west of town. There are no residences within one thousand feet of the Facility. To date, no private-use water wells have been identified on property down-gradient of the Facility.

#### **V. CONCLUSIONS OF LAW AND DETERMINATIONS**

Based on the foregoing findings of fact and after consideration of the Administrative Record, the Director of EPA Region VII's Air, RCRA, and Toxics Division, has made the following conclusions of law and determinations:

1. Respondent is a "person" within the meaning of Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).
2. Respondent is the owner or operator of the Facility and is operating under interim status subject to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e).
3. Certain wastes and constituents found at the Facility are hazardous wastes and/or hazardous constituents pursuant to Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), Section 3001 of RCRA, 42 U.S.C. § 6921, and 40 C.F.R. Part 261.
4. There is or has been a release of hazardous wastes or hazardous constituents into the environment from the Facility.
5. The actions required by this Order are necessary to protect human health and/or the environment.

#### **VI. WORK TO BE PERFORMED**

Pursuant to Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), Respondent agrees to and is hereby ordered to perform the work specified herein, in the manner and by the dates specified pursuant to the terms of this Order ("Work"). All Work shall be performed in a manner consistent with, at a minimum: the attached Scopes of Work; EPA-approved workplans, RCRA and regulations promulgated thereunder, and other applicable Federal laws and their implementing regulations, and applicable EPA guidance documents.

#### **A. RCRA Facility Investigation (RFI)**

1. Within the time frames specified in the RCRA Facility Investigation ("RFI") Scope of Work, Attachment 2 to this Order, Respondent shall submit a report subject to approval by EPA in accordance with Section IX (Agency Approvals/Proposed Contractor/Additional Work). This report shall be in accordance with the RFI Scope of Work and shall include the following items:

a. A Current Conditions Report prepared in accordance with Task I of the RFI Scope of Work.

b. A RFI Workplan prepared in accordance with Task II of the RFI Scope of Work. The RFI Workplan is subject to approval by EPA in accordance with Section IX (Agency Approvals/Proposed Contractor/Additional Work). The RFI Workplan shall include a Project Management Plan, Sampling and Analysis Plan/Quality Assurance Project Plan ("SAP/QAPP"), Data Management Plan, Health and Safety Plan, Community Relations Plan, and Risk Assessment Workplan. The RFI Workplan shall detail the methodology Respondent will use to: (1) identify and characterize all sources of contamination; (2) define the degree and extent of contamination; (3) characterize the potential pathways of contaminant migration; (4) identify actual or potential human and/or ecological receptors; and (5) support the development of alternatives from which a corrective measure may be selected by EPA. A specific schedule for implementation of all activities shall be included in the RFI Workplan.

2. Upon approval of the RFI Workplan, Respondent shall conduct a RFI at the Facility in accordance with the EPA-approved RFI Workplan. Following completion of the RFI, Respondent shall submit to EPA an RFI Report prepared in accordance with Task IV of the RFI Scope of Work. The RFI Report is subject to approval by EPA in accordance with Section IX (Agency Approvals/Proposed Contractor/Additional Work).

#### **B. Corrective Measures Study (CMS)**

1. Within the time frames specified in the Corrective Measures Study ("CMS") Scope of Work, Attachment 3 to this Order, Respondent shall submit to EPA a CMS Workplan prepared in accordance with Tasks I through III of the CMS Scope of Work, if required. The CMS Workplan is subject to approval by EPA in accordance with Section IX (Agency Approvals/Proposed Contractor/Additional Work).



2. Respondent shall conduct a CMS at the Facility. The CMS shall detail the methodology for developing and evaluating potential corrective measures to remedy any contamination at the Facility necessary for the protection of human health and the environment.

3. Following completion of the CMS, Respondent shall submit to EPA a hardcopy and an electronic copy of the CMS Report prepared in accordance with Task II of the CMS Scope of Work. The CMS Report is subject to approval by EPA in accordance with Section IX (Agency Approvals/Proposed Contractor/Additional Work).

#### **VII. PUBLIC PARTICIPATION AND COMMENT**

1. EPA will provide the public with an opportunity to review and comment on the final draft of the CMS Report and a description of EPA's proposed corrective measure(s), including EPA's justification for proposing such corrective measure(s) (the "Statement of Basis").

2. Following the public comment period, EPA may approve the CMS Report and select a final corrective measure(s) or require Respondent to revise the Report and/or perform additional corrective measures studies.

3. EPA will notify Respondent of the final corrective measure selected by EPA in the Final Decision and Response to Comments. The notification will include EPA's reasons for selecting the corrective measure.

#### **VIII. PROJECT COORDINATORS**

1. EPA hereby designates the following person to be its Project Coordinator with regard to this Order:

Patricia Murrow  
ARTD/RCAP  
U.S. Environmental Protection Agency  
901 North 5<sup>th</sup> Street  
Kansas City, Kansas 66101  
Phone Number: 913-551-7627  
Facsimile: 913-551-9627

Within 20 days of the effective date of this Order, Respondent shall designate a Project Coordinator and shall notify EPA in writing of the identity of the Project Coordinator that it has selected. Each Project Coordinator shall be responsible for overseeing the implementation of this Order and for designating a person to act in his/her absence. EPA's Project Coordinator will be

EPA's designated representative for the Facility. To the maximum extent practicable, all communications between Respondent and EPA, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to this Order shall be directed through the Project Coordinators.

2. The parties may change their Project Coordinator but agree to provide at least 7 days written notice prior to such change.

3. The absence of EPA's Project Coordinator from the Facility shall not be cause for the stoppage of work.

#### **IX. AGENCY APPROVALS/PROPOSED CONTRACTOR/ ADDITIONAL WORK**

1. The following procedure shall apply to the review and approval of all plans, reports, or other documents submitted to EPA for review and approval, including plans and reports submitted pursuant to Section IX, paragraph 4, below, pertaining to Additional Work. EPA will review each such document and notify Respondent, in writing, as to its approval or disapproval thereof. If EPA does not approve any such document, it will provide written comments regarding the basis of the disapproval. Within 30 days of receipt of EPA's comments, or such longer time period as agreed to in writing by EPA and Respondent, Respondent shall modify the submission to incorporate EPA's comments, and shall submit the amended report to EPA. Upon resubmission, EPA, in its sole discretion, may either approve the document, or, if EPA determines that the document does not adequately address the comments provided by EPA, EPA may unilaterally modify the document, and will provide Respondent with a copy of the document as modified by EPA, to be implemented in accordance with any modifications. If, upon resubmission, a document, or portion thereof, is disapproved or modified by EPA, Respondents shall be deemed to have failed to submit such plan, report, or item timely and adequately. EPA's determination that any submission does not conform to the requirements of this Order are subject to the Dispute Resolution procedures set forth in Section XVI; however, invocation of dispute resolution shall not stay Respondent's obligation to perform any work required by any approved or modified document for which dispute resolution has not been invoked.

2. Any EPA approved report, workplan, specification, or schedule shall be deemed incorporated into this Order. Prior to this written approval, no workplan, report, specification, or

schedule shall be construed as approved and final. Oral advice, suggestions, or oral comments given by EPA representatives will not constitute an official approval, nor shall any oral approval or oral assurance of approval be considered binding.

3. The Work shall be under the direction and supervision of a professional engineer, hydrologist, geologist, or environmental scientist, with expertise in hazardous waste cleanup. Respondent's contractor or consultant shall have the technical expertise sufficient to adequately perform all aspects of the work for which it is responsible. Within 30 days of the effective date of this Order, Respondent shall notify EPA's Project Coordinator in writing of the name, title, and qualifications of the engineer, hydrologist, geologist, or environmental scientist and of any contractors or consultants and their personnel to be used in carrying out the Work. EPA reserves the right to disapprove of Respondent's contractor and/or consultant for cause at any time during the period that this Order is effective. EPA will provide its disapproval in writing, setting forth the reasons for disapproving of Respondent's contractor and/or consultant. If EPA disapproves of a contractor or consultant, Respondent shall, within 15 days of receipt from EPA of written notice of disapproval, notify EPA, in writing, of either its objections to the disapproval or the name, title, and qualifications of any replacement. EPA's disapproval of Respondent's contractor and/or consultant are subject to the Dispute Resolution procedures set forth in Section XVI. If EPA disapproves of Respondent's contractor and/or consultant, and Respondent does not contest the disapproval, the compliance dates for completion of the Work shall be tolled for 15 days to allow Respondent time to retain a new contractor and/or consultant.

4. EPA may determine or Respondent may propose that certain tasks, including investigatory work, engineering evaluation, or procedure/methodology modifications, are necessary in addition to or in lieu of the tasks included in any EPA-approved workplan, when such additional work is necessary to meet the purposes set forth in Section II (Statement of Purpose). If EPA determines that Respondent shall perform additional work, EPA will notify Respondent in writing and specify the basis for its determination that the additional work is necessary. Within 10 days after the receipt of such determination, Respondent shall have the opportunity to meet or confer with EPA to discuss the additional work. If required by EPA, Respondent shall submit for EPA approval a workplan for the additional work. EPA will specify

the contents of such workplan. Such workplan shall be submitted within 30 days of receipt of EPA's determination that additional work is necessary, or according to an alternative schedule established by EPA. Upon approval of a workplan by EPA, Respondent shall implement it in accordance with the schedule and provisions contained therein.

#### **X. QUALITY ASSURANCE**

1. Respondent shall follow EPA guidance for sampling and analysis. Workplans shall contain quality assurance/quality control ("QA/QC") and chain of custody procedures for all sampling, monitoring, and analytical activities. Any material deviations from the QA/QC and chain of custody procedures in approved workplans must be approved by EPA prior to implementation; must be documented, including reasons for the deviations; and must be reported in the applicable report.

2. The names, addresses, and telephone numbers of the analytical laboratories Respondent proposes to use must be specified in the applicable workplan.

3. All workplans required under this Order shall include data quality objectives for each data collection activity to ensure that data of known and appropriate quality are obtained and that data are sufficient to support their intended uses.

4. Respondent shall monitor to ensure that high quality data is obtained by its consultant or contract laboratories. Respondent shall ensure that laboratories used by it for analysis perform such analysis according to the latest approved edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, Respondent shall specify all such protocols in the applicable workplan. EPA may reject any data that does not meet the requirements of the approved workplan or EPA analytical methods and may require resampling and additional analysis.

5. Respondent shall ensure that the laboratories it uses for analyses participate in a QA/QC program equivalent to that which is followed by EPA. EPA may conduct a performance and QA/QC audit of the laboratories chosen by Respondent before, during, or after sample analyses. Upon request by EPA, Respondent shall have its laboratory perform analyses of samples provided by EPA to demonstrate laboratory performance. EPA will submit no more

than 5 soil samples and 5 aqueous samples during the course of the Work. The samples will be analyzed for one or more of the constituents of concern identified during the RFI. If the audit reveals deficiencies in a laboratory's performance or QA/QC, resampling and additional analysis may be required.

#### **XI. SAMPLING AND DATA/DOCUMENT AVAILABILITY**

1. Respondent shall submit to EPA upon request the results of all validated sampling and/or tests or other data generated by it or on its behalf.
2. Notwithstanding any other provisions of this Order, the United States retains all of its information gathering and inspection authorities and rights, including the right to bring enforcement actions related thereto, under RCRA or any other applicable statutes or regulations.
3. Respondent shall notify EPA in writing at least 15 days prior to beginning each separate phase of field work approved under any workplan required by this Order. If Respondent believes it must commence emergency field activities without delay, Respondent may seek emergency telephone authorization from EPA's Project Coordinator or, if EPA's Project Coordinator is unavailable, her Section Chief, to commence such activities immediately. At the request of EPA, Respondent shall allow EPA or its authorized representative to take split or duplicate samples of all samples collected by Respondent pursuant to this Order. Similarly, at the request of Respondent, EPA shall allow Respondent or its authorized representative to take split or duplicate samples of all samples collected by EPA under this Order.
4. Respondent may assert a business confidentiality claim covering all or part of any information submitted to EPA pursuant to this Order. Any assertion of confidentiality must be accompanied by information which satisfies the items listed in 40 C.F.R. § 2.204(e)(4) or such claim shall be deemed waived. Information determined by EPA to be confidential shall be disclosed only to the extent permitted by 40 C.F.R. Part 2. If no such confidentiality claim accompanies the information when it is submitted to EPA, the information may be made available to the public by EPA without further notice to Respondent. Respondent agrees not to assert any confidentiality claim with regard to any physical or analytical data.

## **XII. ACCESS**

1. EPA, its contractors, employees, and/or any duly designated EPA representatives are authorized to enter and freely move about the Facility for the purpose of implementing, effectuating or overseeing the Work, inter alia: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts related to the Facility; reviewing the progress of Respondent in carrying out the terms of this Order; conducting such tests, sampling, or monitoring as EPA deems necessary; using a camera, sound recording, or other documentary type equipment to record matters addressed by this Order; and verifying the reports and data submitted to EPA by Respondent. Respondent agrees to provide EPA and its representatives access at all reasonable times (generally during business hours) to the Facility and subject to the following paragraph, to any other property to which access is required for implementation of this Order. Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to the Work and that are within the possession or under the control of Respondent or its contractors or consultants. To the extent that EPA and/or its authorized representatives enter the Facility, they will comply with all reasonable worker health and safety requirements of Respondent and make all reasonable efforts not to interrupt the business at the Facility.

2. To the extent that the Work must be done beyond the Facility property boundary, Respondent shall use its best efforts to obtain access agreements necessary to complete the Work from the present owner of such property within 60 days of the date that the need for access becomes known to Respondent. Best efforts as used in this paragraph shall include, at a minimum, a certified letter from Respondent to the present owner(s) of such property requesting access agreement(s) to permit Respondent and its authorized representatives to access such property, and offering to pay reasonable and customary compensation in consideration of granting access to the extent that it does not endanger the future application of the contiguous property defense. Any such access agreement shall provide for access by EPA and its representatives. Respondent shall provide a copy of all access agreements which it obtains under this Order to EPA's Project Coordinator. In the event that agreements for access are not obtained within 30 days of approval of any workplan for which access is required, or of the date that the



need for access became known to Respondent, Respondent shall notify EPA in writing within 14 days thereafter of both the efforts undertaken to obtain access and the failure to obtain access agreements. EPA may, at its discretion, assist Respondent in obtaining access. In the event that EPA obtains access, Respondent shall undertake EPA-approved work on such property.

3. Respondent agrees to indemnify the United States as provided in Section XXI (Indemnification), for all claims arising from activities on such property.

4. Nothing in this section limits or otherwise affects EPA's right of access and entry pursuant to applicable law.

5. Nothing in this section shall be construed to limit or otherwise affect Respondent's liability and obligation to perform corrective action including corrective action beyond the Facility boundary, notwithstanding the lack of access.

### **XIII. RECORD PRESERVATION**

1. Respondent shall retain, during the pendency of this Order and for a minimum of 6 years after its termination, all data, records, and documents now in its possession or control or which come into its possession or control which relate in any way to this Order or to hazardous waste management and/or disposal at the Facility.

2. Respondent further agrees that within 45 days of retaining or employing any agent, consultant, or contractor for the purpose of carrying out the terms of this Order, Respondent will enter into an agreement with any such agents, consultants, or contractors whereby such agents, consultants, and/or contractors will be required to provide Respondent a copy of all documents produced pursuant to this Order.

3. All documents pertaining to this Order, excluding internal Respondent communication and privileged communication, shall be stored by the Respondent in a centralized location at the Facility to afford ease of access by EPA or its representatives.

### **XIV. REPORTING AND DOCUMENT CERTIFICATION**

1. Beginning with the first full quarter (3 month period) following the effective date of this Order, and throughout the period that this Order is effective, Respondent shall provide EPA with quarterly progress reports. Progress reports are due by the 15<sup>th</sup> day of the month following each quarter. The progress reports shall conform to the requirements in the RFI and CMS Scopes

of Work.

2. All correspondence shall include the RCRA Facility identification number (IAD065218737) on the title page or subject line.

3. Three copies of all documents required to be submitted pursuant to this Order shall be hand delivered, sent by certified mail, return receipt requested, or by overnight delivery to EPA's Project Coordinator.

4. Any report or other document submitted by Respondent pursuant to this Order which makes any representation concerning Respondent's compliance or noncompliance with any requirement of this Order shall be certified by a responsible corporate officer of Respondent or a duly authorized representative. A responsible corporate officer means: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

5. The certification required by paragraph 4 above, shall be in the following form:

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this submittal is true, accurate, and complete to the best of my knowledge. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

#### **XV. DELAY IN PERFORMANCE/STIPULATED PENALTIES**

1. Unless there has been a written modification by EPA of a compliance date, a written modification by EPA of an approved workplan condition, or excusable delay as defined in

Section XVII (Force Majeure and Excusable Delay), if Respondent fails to comply with any term or condition set forth in this Order in the time or manner specified herein, Respondent shall pay stipulated penalties as set forth below upon written demand from EPA.

- a. For failure to commence, perform, and/or complete field work in a manner acceptable to EPA or at the time required pursuant to this Order: \$1,000 per day for the first 15 days of such violation, \$2,500 per day for the 16<sup>th</sup> through 30<sup>th</sup> day of such violation, and \$3,500 per day for each day of such violation thereafter;
- b. For failure to complete and submit any workplans or reports (other than progress reports) in a manner acceptable to EPA or at the time required pursuant to this Order, or for failure to notify EPA of immediate or potential threats posing an imminent and substantial endangerment not previously identified: \$1,000 per day for the first 15 days of such violation, \$2,500 per day for the 16<sup>th</sup> through 30<sup>th</sup> day of such violation, and \$3,500 per day for each day of such violation thereafter;
- c. For failure to complete and submit other written submittals not included in paragraph 1.b. of this section in a manner acceptable to EPA or at the time required pursuant to this Order: \$1,000 per day for the first 15 days of such violation, \$2,500 per day for the 16<sup>th</sup> through 30<sup>th</sup> day of such violation, and \$3,500 per day for each day of such violation thereafter;
- d. For failure to comply with any other provisions of this Order in a manner acceptable to EPA: \$1,000 per day for the first 15 days of such violation, \$2,500 per day for the 16<sup>th</sup> through 30<sup>th</sup> day of such violation, and \$3,500 per day for each day of such violation thereafter.

2. Unless Respondent successfully invokes the dispute resolution procedures under Section XVI (Dispute Resolution) and prevails on the disputed matter, (a) penalties shall begin to accrue on the day after complete performance is due or the day a violation occurs, and shall continue to accrue through the day of correction of the violation; (b) nothing herein shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Order; and (c) penalties shall continue to accrue regardless of whether EPA has notified Respondent of a violation.

3. All penalties owed to the United States under this Section shall be due and payable within 30 days of Respondent's receipt from EPA of a written demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). Such a written demand will describe the violation or potential violation and will indicate the amount of penalties due.

4. Unless Respondent successfully invokes the dispute resolution procedures under Section XVI (Dispute Resolution) and prevails on the disputed matter, interest shall begin to accrue on any unpaid stipulated penalty balance beginning on the thirty-first day after Respondent's receipt of EPA's demand letter. Interest shall accrue at the Current Value of Funds Rate established by the Secretary of the Treasury. Pursuant to 31 U.S.C. § 3717, an additional penalty of 6% per annum on any unpaid principal shall be assessed for any stipulated penalty payment which is overdue for 90 or more days.

5. All penalties shall be made payable by certified or cashier's check made payable to the United States of America and shall be remitted to:

Mellon Bank  
Attention: EPA Region VII  
Office of the Comptroller  
P.O. Box 360748M  
Pittsburgh, PA 15251

All such checks shall reference the name of the Facility, Respondent's name and address, and the EPA docket number which appears on the face of this Order. Copies of all such checks and letters forwarding the checks shall be sent simultaneously to the EPA Project Coordinator.

6. Respondent may dispute EPA's assessment of stipulated penalties by invoking the dispute resolution procedures under Section XVI (Dispute Resolution). Respondent shall pay stipulated penalties and interest, if any, to the extent required under the dispute resolution decision and/or agreement. Respondent shall submit such payment to EPA within 7 days of receipt of such resolution in accordance with Paragraph 5 of this section.

7. Neither the invocation of dispute resolution nor the payment of penalties shall alter in any way Respondent's obligation to fully comply with this Order.

8. The stipulated penalties set forth in this section do not preclude EPA from pursuing any other remedies or sanctions that do not involve the assessment of penalties which may be

available to EPA by reason of Respondent's failure to comply with any of the terms and conditions of this Order.

#### **XVI. DISPUTE RESOLUTION**

1. The parties shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion. The parties agree that the procedures contained in this section are the sole procedures for resolving disputes arising under this Order. If Respondent fails to follow any of the requirements contained in this section then it shall have waived its right to further consideration of the disputed issue.

2. If Respondent disagrees, in whole or in part, with any written decision ("Initial Written Decision") by EPA pursuant to this Order, Respondent's Project Coordinator shall notify EPA's Project Coordinator of the dispute. The Project Coordinators shall attempt to resolve the dispute informally.

3. If the Project Coordinators cannot resolve the dispute informally, Respondent may pursue the matter formally by placing its objections in writing. Respondent's written objections shall be directed to EPA's Project Coordinator. Such objections shall be submitted to EPA's Project Coordinator within 14 days of Respondent's receipt of the Initial Written Decision. Respondent's written objection must set forth the specific points of the dispute, the position Respondent claims should be adopted as consistent with the requirements of this Order, the basis for Respondent's position, and any matters which it considers necessary for EPA's determination.

4. EPA and Respondent shall have 14 days from EPA's receipt of Respondent's written objections to attempt to resolve the dispute through formal negotiations. This time period may be extended by EPA for good cause. During such time period, ("Negotiation Period") Respondent may request a conference with the Chief of EPA Region VII's RCRA Corrective Action and Permits Branch to discuss the dispute and Respondent's objections. EPA agrees to confer in person or by telephone to resolve any such disagreement with Respondent as long as Respondent's request for a conference will not extend the Negotiation Period.

5. If the parties are unable to reach an agreement within the Negotiation Period, the record of the dispute will be submitted to the Director of EPA Region VII's Air, RCRA, and Toxics Division for resolution. The record of the dispute shall consist of any and all documents

submitted by Respondent and EPA in their attempts to resolve the dispute. Based on the preponderance of evidence in the record, EPA shall provide to Respondent its written decision on the dispute ("EPA Dispute Decision") which shall include a response to Respondent's arguments. Such decision shall be incorporated into and become an enforceable element of this Order, but will not be considered final Agency action for purposes of judicial review.

6. The existence of a dispute as defined in this section and EPA's consideration of matters placed into dispute may, at the discretion of the Director of EPA Region VII's Air, RCRA, and Toxics Division, toll or suspend any compliance obligation or deadline that is the subject of such dispute during the pendency of the dispute resolution process.

#### **XVII. FORCE MAJEURE AND EXCUSABLE DELAY**

1. Force majeure, for purposes of this Order, is defined as any event arising from unforeseen causes and beyond the control of Respondent or any person or entity controlled by Respondent, including but not limited to Respondent's contractors, that delays or prevents the timely performance of any obligation under this Order despite Respondent's best efforts to fulfill such obligation. The requirement that Respondent exercise "best efforts to fulfill such obligation" shall include, but not be limited to, best efforts to anticipate any potential force majeure event and address it before, during, and after its occurrence, such that any delay or prevention of performance is minimized to the extent possible. Force majeure does not include increased costs of the Work, financial inability to complete the work except as determined by order of a court, work stoppages or other labor disputes.

2. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, Respondent shall contact by telephone and communicate orally with EPA's Project Coordinator or, in her absence, the Chief of EPA Region VII's RCRA Corrective Action and Permits Branch, or, in the event both of EPA's designated representatives are unavailable, the Director of EPA Region VII's Air, RCRA, and Toxics Division, within 7 days of when Respondent first knew or should have known that the event might cause a delay. If Respondent wishes to claim an excusable delay due to a force majeure event, then within 7 days thereafter, Respondent shall provide to EPA in writing the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the

delay; all other obligations affected by the event, and what measures, if any, taken or to be taken to minimize the effect of the event on those obligations; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health or the environment. Respondent shall include with any notice all available documentation supporting its claim, if any, that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure for that event. Respondent shall be deemed to have notice of any circumstances of which its contractors had or should have had notice.

3. If EPA determines that the delay or anticipated delay is attributable to a force majeure event, the time for performance of such obligation under this Order that is affected by the force majeure event will be extended by EPA for such time as EPA determines is necessary to complete such obligation, and EPA's failure to complete such determination within the specified time of performance of such obligation shall be an excusable delay for which no stipulated penalties shall apply. An extension of the time for performance of such obligation affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation, unless Respondent can demonstrate that more than one obligation was affected by the force majeure event, however it will toll any stipulated penalties or other penalties that could be assessed hereunder. If EPA determines that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of such obligations affected by the force majeure event.

4. If EPA disagrees with Respondent's assertion of a force majeure event, EPA will notify Respondent in writing and Respondent may elect to invoke the dispute resolution provision, and shall follow the time frames set forth in Section XVI (Dispute Resolution). In any such proceeding, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be reasonable under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and

that Respondent complied with the requirements of this section.

#### **XVIII. RESERVATION OF RIGHTS**

1. EPA reserves all of its statutory and regulatory powers, authorities, rights, and remedies, both legal and equitable, which may pertain to Respondent's failure to comply with any of the requirements of this Order, including without limitation the assessment of penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. § 6928(h)(2). This Order shall not be construed as a covenant not to sue, release, waiver, or limitation of any rights, remedies, powers, and/or authorities, civil or criminal, which EPA has under RCRA or any other statutory, regulatory, or common law authority of the United States.

2. EPA reserves the right to disapprove of work performed by Respondent pursuant to this Order and to order that Respondent perform additional tasks.

3. EPA reserves the right to perform any portion of the work consented to herein or any additional site characterization, feasibility study, and remedial work as it deems necessary to protect human health and/or the environment. EPA may exercise its authority under CERCLA to undertake response actions at any time. In any event, EPA reserves its right to seek reimbursement from Respondent for costs incurred by the United States. Notwithstanding compliance with the terms of this Order, Respondent is not released from liability, if any, for the costs of any response actions taken or authorized by EPA.

4. If EPA determines that activities in compliance or noncompliance with this Order have caused or may cause a release of hazardous waste or hazardous constituent(s) or a threat to human health and/or the environment, where either the release or threat will likely to result in an imminent and substantial endangerment, or that Respondent is not capable of undertaking any of the work ordered, EPA may order Respondent to stop further implementation of this Order for such period of time as EPA determines may be needed to abate any such release or threat and/or to undertake any action which EPA determines is necessary to abate such release or threat.

5. This Order is not intended to be nor shall it be construed to be a permit. Further, the parties acknowledge and agree that EPA's approval of the SOW or any final workplan does not constitute a warranty or representation that the SOW or workplans will achieve the required cleanup or performance standards. Compliance by Respondent with the terms of this Order shall



not relieve Respondent of its obligations to comply with RCRA or any other applicable local, State, or federal laws and regulations.

6. Notwithstanding any other provision of this Order, no action or decision by EPA pursuant to this Order shall constitute final agency action giving rise to any right of judicial review prior to EPA's initiation of a judicial action to enforce this Order, including an action for penalties or an action to compel Respondent's compliance with the terms and conditions of this Order.

7. In any action brought by EPA for a violation of this Order, Respondent shall bear the burden of proving that EPA's actions were arbitrary and capricious and not in accordance with the law.

8. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive or other appropriate relief relating to the Facility, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been raised in the present matter.

#### **XIX. OTHER CLAIMS**

Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, demand, or defense in law or equity, against any person, firm, partnership, or corporation for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituents, hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken or migrating from the Facility. Respondent waives any claims or demands for compensation or payment under Sections 106(b), 111, and 112 of CERCLA against the United States or the Hazardous Substance Superfund established by 26 U.S.C. § 9507 for, or arising out of, any activity performed or expense incurred pursuant to this Order. Additionally, this Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA.

## **XX. OTHER APPLICABLE LAWS**

All actions required to be taken pursuant to this Order shall be undertaken in accordance with the requirements of all applicable local, state, and Federal laws and regulations. Respondent shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

## **XXI. INDEMNIFICATION**

Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from or on account of acts or omissions of Respondent or its officers, employees, agents, independent contractors, receivers, trustees, and assigns in carrying out activities required by this Order. This indemnification shall not be construed in any way as affecting or limiting the rights or obligations of Respondent or the United States under their various contracts. Respondent shall not be responsible for indemnifying the EPA for claims or causes of action solely from or on account of negligent or intentional acts or omissions of EPA.

## **XXII. MODIFICATION**

1. This Order may only be modified by mutual agreement of EPA and Respondent. Any agreed modifications shall be in writing, be signed by both parties, shall have as their effective date the date on which they are signed by EPA, and shall be incorporated into this Order.

2. Any requests for a compliance date modification or revision of an approved workplan requirement must be made in writing. Such requests must be timely and provide justification for any proposed compliance date modification or workplan revision. EPA has no obligation to approve such requests, but if it does so, such approval must be in writing. Any approved compliance date or workplan modification shall be incorporated by reference into this Order.

3. This section shall not apply to any EPA dispute decision, EPA approved report, workplan, specification and schedule which are deemed to be incorporated into this Order.

## **XXIII. SEVERABILITY**

If any provision or authority of this Order or the application of this Order to any party or circumstances is held by any judicial or administrative authority to be invalid, the application of such provisions to other parties or circumstances and the remainder of the Order shall remain in

force and shall not be affected thereby.

#### **XXIV. TERMINATION AND SATISFACTION**

This Order shall terminate when Respondent demonstrates in writing and certifies (in accordance with Section XIV (Reporting and Document Certification)) to EPA that the Work has been performed and EPA has approved the certification. If EPA disapproves of the certification, it will specify in writing the reasons therefor. Termination of this Order shall not, however, terminate Respondent's obligation to comply with Sections XIII (Record Preservation), XVIII (Reservation of Rights), and XXI (Indemnification) of this Order.

#### **XXV. SURVIVABILITY/PERMIT INTEGRATION**

Except as otherwise expressly provided in this section, this Order shall survive the issuance or denial of a RCRA permit for the Facility, and this Order shall continue in full force and effect after either the issuance or denial of such permit. Accordingly, Respondent shall continue to be liable for the performance of obligations under this Order notwithstanding the issuance or denial of such permit. If the Facility is issued a RCRA permit and that permit expressly incorporates all or a part of the requirements of this Order, or expressly states that its requirements are intended to replace some or all of the requirements of this Order, Respondent may request a modification of this Order and shall, with EPA approval, be relieved of liability under this Order for those specific obligations.

#### **XXVI. EFFECTIVE DATE**

1. The effective date of this Order, and Respondent's obligations to perform hereunder, shall be expressly conditioned upon, and subject to, approval of this Order and the Joint Reorganization Plan by the Bankruptcy Court for the District of Delaware administering Respondent's pending Chapter 11 case, In Re Fansteel Inc. et al. (Case No. 02-10109 (JJF)). The Joint Plan of Reorganization is defined as the Joint Reorganization Plan, as may be amended, of Fansteel, Inc. and its affiliated debtors file in their Chapter 11 cases. Respondent shall use its reasonable best efforts to file a motion with the Bankruptcy Court to obtain such approval within 60 days of the date of execution of this Order by the Director of EPA Region VII's Air, RCRA, and Toxics Division ("Director").

2. EPA hereby agrees that no injunctive relief, fines or penalties relating to the requirement to perform an RFI or CMS at the Facility will be sought or assessed until the Bankruptcy Court, if applicable, has denied approval of this Order. Notwithstanding the foregoing, after 10 days written notice to Respondent provided at any time after 90 days following the date of execution of this Order by the Director, EPA may withdraw from this Order for good cause. EPA's withdrawal shall render this Order null, void, and of no effect.

**IT IS SO AGREED AND ORDERED:**

**For Wellman Dynamics Corporation**

July 9, 2003

DAVID E. LEITTON  
By: David E. Leitton  
Title: GEN. MGR.

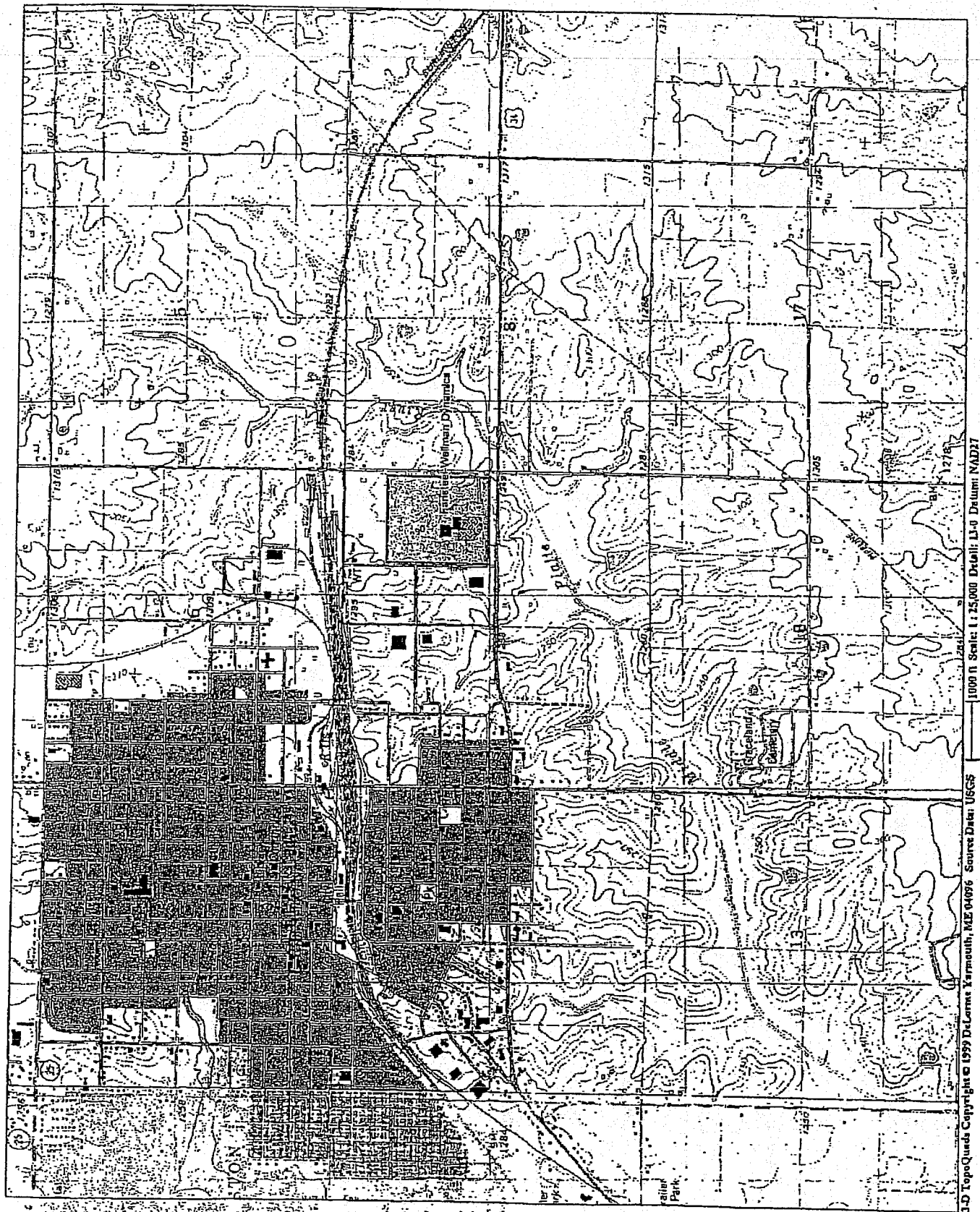
**For the U.S. Environmental Protection Agency**

8/15, 2003

William A. Spratlin  
William A. Spratlin  
Director, Air, RCRA & Toxics Division  
U.S. Environmental Protection  
Agency, Region VII

July 21<sup>st</sup>, 2003

David A. Hoefel  
David A. Hoefel  
Attorney  
Office of Regional Counsel  
U.S. Environmental Protection  
Agency, Region VII



ATTACHMENT 1

## ATTACHMENT 2

Scope of Work for a RCRA Facility Investigation (RFI)  
at  
Wellman Dynamics Corporation  
Creston, Iowa

### **I. PURPOSE**

- A. The purpose of the RFI is to determine the nature and extent of releases of hazardous waste or hazardous constituents from regulated units, solid waste management units, and other areas of concern (AOCs) at the Facility and to gather necessary data to support the Corrective Measures Study, if required. In order to streamline the RFI process, all previously acquired data, that was accepted by the EPA during previous investigations or validated data from other studies may be incorporated in the Current Conditions Report (CCR) and used to help focus the scope of the current investigation.

The RFI may be completed in a phased approach. Initially the Respondent will develop a preliminary conceptual site risk model for the facility as part of completing Task I below. The Facility has been, and will be in the foreseeable future, Industrial. Therefore, potential on-site exposure pathways will include industrial worker, on-site construction workers, and trespasser scenarios. Investigation activities will focus on data collection for establishing the horizontal and vertical limits of contaminant releases that may have occurred from past facility operations. The information will be used to evaluate whether there are unacceptable risks to human health or the environment. Historical groundwater flow and quality data have been collected at the Facility. This data will be updated as necessary to provide information on the current condition of groundwater. The compliance boundary will be defined at the property boundary of the Facility. Groundwater cleanup goals will be established at this compliance boundary based on reasonable off-site exposure scenario(s). Following data collection and evaluation, a risk assessment will be performed for those pathways identified in the conceptual site model, and as necessary for off site scenarios.

Based on this approach, the Respondent will focus on the collection of data identified as "data gaps" in the CCR as necessary to meet the purpose of the RFI.

### **B. Scope - the RFI Consists of Five Tasks:**

1. Task I: Current Conditions Report;
2. Task II: RFI Workplan Requirements;

3. Task III: Facility Field Investigation RFI;
4. Task IV: RFI Report;
5. Task V: Progress Reports.
6. Task VI: Schedule

**II. TASK I: The Description of Current Conditions Report shall include, as applicable to meet the purpose of the RFI:**

**A. Facility Background** — The Current Conditions Report shall contain a summary of current and historical use of the Facility for the treatment, storage or disposal of solid and hazardous waste. Respondent may use and compile the information contained within documents and reports previously submitted to IDNR or EPA to satisfy this requirement, provided the documents and reports accurately reflect the conditions at the Facility. The Current Conditions Report shall be subject to review and approval by EPA prior to the Respondents submittal of the RFI Workplan. The Current Conditions Report shall include:

1. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the Facility;
2. Approximate dates and periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and
3. Maps depicting the following:
  - a. General geographic location;
  - b. Property lines, with the owners of all adjacent property clearly indicated;
  - c. Topography (with a contour interval sufficient to depict the following features), and surface drainage depicting all waterways, wetlands, flood plains, recharge areas, water features, drainage patterns, and surface-water containment areas within a two mile radius of the Facility; e.g. USGS Topographic Map;

- d. All tanks, buildings, utilities, paved areas and other physical and structural features of the Facility, as well as easements and rights-of-way held by persons other than Respondent at the Facility;
- e. All solid or hazardous waste treatment, storage or disposal areas at the Facility, including both those areas which are currently in use and those used in the past;
- f. All underground tanks and pipes at the Facility used for product, water or waste, including both those tanks and pipes which are currently being used and those used in the past;
- g. Surrounding land uses (i.e., the manner in which the land is currently being used, such as whether the land is used for residential, commercial, agricultural, recreational purposes); and
- h. The location of all production and groundwater monitoring wells, municipal and residential groundwater wells within a two mile radius of the Facility. The location of all such wells shall be clearly identified on the map and, where available, information provided as to the elevations/depths of the water producing zone, of the ground level at the well and the top of the casing. All maps shall be of consistent scale and include the following:
  - (1) map scale and date;
  - (2) surface water, including intermittent streams;
  - (3) orientation of map (north arrow);
  - (4) legal boundaries of the hazardous waste management facility;
  - (5) access control (fences, gates); and
  - (6) location of operating units within the hazardous waste management facility/ site, where hazardous waste is (or will be) treated, stored or disposed (including equipment cleanup areas). All maps will be of sufficient detail and accuracy to locate and report all previous, current, and future work performed at the Facility.



*Section*

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**B. Nature and Extent of Contamination** – The Current Conditions Report shall include a description of the existing information on the nature and extent of contamination.

1. The Current Conditions Report shall summarize all possible areas of contamination. This should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination (i.e., AOCs). For each area, the report shall identify the following:
  - a. Location of unit/area (which shall be depicted on a facility map);
  - b. Quantities of solid and hazardous wastes;
  - c. Hazardous waste or constituents, to the extent known; and
  - d. Identification of areas where additional information is necessary.
2. The Current Conditions Report shall include an assessment and description of the existing degree and extent of contamination, including:
  - a. Available monitoring data and qualitative information on locations and levels of contamination at the Facility;
  - b. All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, and meteorology; and
  - c. The potential impact(s) on human health and the environment, including demography, ground water and surface water use, and land use.

**C. Implementation of Interim Measures** – The Current Conditions Report shall document interim measures which were or are being undertaken at the Facility, including:

1. Objectives of the interim measures: how the measure is mitigating or has mitigated a potential threat to human health and the environment;
2. Design, construction, operation, and maintenance requirements; if applicable;
3. Schedules for design, construction and monitoring if applicable; and

4. Schedule for progress reports; if applicable.

### III. TASK II: RFI Workplan

After EPA approval of the Current Conditions Report, the Respondent shall submit a RFI Workplan that is designed to fill any data/information gaps identified in the Current conditions Report. The purpose of the RFI workplan in combination with the Current conditions report is to provide enough information to define the vertical and horizontal extent of contamination to the extent necessary to assess risks to human health and the environment. The RFI Workplan shall include the following:

- A. **Project Management Plan** -- The Project Management Plan shall include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan shall also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. In addition, this plan shall document the overall management approach to the RFI and include a detailed schedule for conducting all RFI activities.
- B. **Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP)** - The SAP/QAPP shall govern all monitoring procedures, including sampling, field measurements and sample analysis to be performed during the investigation to characterize the nature and extent of contamination to ensure that all information and data resulting from the investigation are technically defensible, representative, properly documented, and support corrective action decisions. Applicable guidance documents include: "Methods for Evaluating the Attainment of Cleanup Standards," (EPA 230/02-89-042); "Draft Final EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations," (EPA QA/R-5); "Guidance for Data Quality Assessment, Practical Methods for Data Analysis," (EPA QA/G-9); and the "Interim Final RCRA Facility Investigation (RFI) Guidance," (EPA 530/SW-89-031).
  1. **Data Quality Objectives** - The SAP/QAPP shall contain a qualitative and quantitative data quality objective analysis to define the purpose of the investigative effort, to clarify what data need to be collected to satisfy the identified purpose(s), and specify the performance standards for the quality of the information to be obtained. At a minimum, the SAP/QAPP shall include the following:
    - a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;
    - b. Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

- c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:
  - (1) Environmental conditions at the time of sampling;
  - (2) Number of sampling points;
  - (3) Representativeness of selected media; and
  - (4) Representativeness of selected analytical parameters.
- d. Description of the measures to be taken to assure that the following data sets can be compared to each other:
  - (1) RFI data generated by Respondent over some time period;
  - (2) RFI data generated by an outside laboratory or consultant versus data generated by Respondent;
  - (3) Data generated by multiple consultants or laboratories; and
  - (4) Data generated by an outside consultant or laboratory over some time period.
- e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include but not be limited to:
  - (1) Periodic assessment of measurement data accuracy, precision, and completeness;
  - (2) Results of performance audits
  - (3) Results of system audits;
  - (4) Significant quality assurance problems and recommended solutions; and
  - (5) Resolutions of previously stated problems.

2. Sampling -- The sampling section of the SAP/QAPP shall discuss:
- a. Selecting appropriate sampling locations, depths, etc.;
  - b. Providing a statistically sufficient number of sampling sites, such that a statistically valid comparison can be made between samples;
  - c. Measuring all necessary ancillary data;
  - d. Determining conditions under which sampling should be conducted;
  - e. Determining which media are to be sampled (e.g. groundwater, air, soil, sediment, etc.);
  - f. Determining which parameters are to be measured and where;
  - g. Selecting the frequency of sampling and length of sampling period;
  - h. Selecting the types of sample (e.g., composites vs. grabs) and number of samples to be collected;
  - i. Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;
  - j. Documenting field sampling operations and procedures, including:
    - (1) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample;
    - (2) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
    - (3) Documentation of specific sample preservation methods;
    - (4) Calibration of field devices;
    - (5) Collection of replicate samples
    - (6) Submission of field-biased blanks, where appropriate;
    - (7) Potential interferences present at the Facility;

- (8) Construction materials and techniques, associated with monitoring wells and piezometers;
    - (9) Field equipment listing and sample containers;
    - (10) Sampling order; and
    - (11) Decontamination procedures.
  - k. Selecting appropriate sample containers;
  - l. Sample preservation; and
  - m. Chain-of-custody, including:
    - (1) Pre-prepared forms containing information necessary for effective sample tracking.
3. Field Measurements -- The Field Measurements section of the SAP/QAPP shall discuss:
- a. Selecting appropriate field measurement locations, depths, etc.;
  - b. Providing a statistically sufficient number of field measurements;
  - c. Measuring all necessary ancillary data;
  - d. Determining conditions under which field measurements should be conducted;
  - e. Determining which media are to be addressed by appropriate field measurements (e.g., groundwater, soil, sediment, etc.);
  - f. Determining which parameters are to be measured and where;
  - g. Selecting the frequency of field measurements and length of field measurement period; and
  - h. Documenting field measurement operations and procedures, including:

- 
- (1) Procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition
  - (2) Calibration of field devices;
  - (3) Collection of replicate measurements;
  - (4) Submission of field-biased blanks, where appropriate;
  - (5) Potential interferences present at the Facility;
  - (6) Construction materials and techniques associated with monitoring wells and piezometers used to collect field data;
  - (7) Field equipment listing;
  - (8) Order in which field measurements were made; and
  - (9) Decontamination procedures.

4. Sample Analysis -- The Sample Analysis section of the SAP/QAPP shall specify the following:

a. Chain-of-custody procedures, including:

- (1) Definition of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipments, and verify the data entered onto the sample custody records;
- (2) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
- (3) Specification of laboratory sample custody procedures for sample handling, storage, and dispersion for analysis.

b. Sample storage procedures and storage times;

c. Sample preparation methods;

d. Analytical procedures, including:

- 
- (1) Scope and application of the procedure;
  - (2) Sample matrix;
  - (3) Potential interferences;
  - (4) Precision and accuracy of the methodology; and
  - (5) Method detection limits.
- e. Calibration procedures and frequency;
  - f. Data reduction, validation and reporting;
  - g. Internal quality control checks, laboratory performance and system audits and frequency, including:
    - (1) Method blank(s);
    - (2) Laboratory control sample(s);
    - (3) Calibration check sample(s);
    - (4) Replicate sample(s);
    - (5) Matrix-spiked sample(s);
    - (6) "Blind" quality control sample(s);
    - (7) Control charts;
    - (8) Surrogate samples;
    - (9) Zero and span gases;
    - (10) Reagent quality control checks;
    - (11) Preventative maintenance procedures and schedules;
    - (12) Corrective action (for laboratory problems); and
    - (13) Sample turnaround time

C. **Data Management Plan** -- The Data Management Plan shall document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and progress reporting procedures and/or documents. In addition, the plan shall provide the format to be used for presenting the raw data and conclusions of the investigation to agency personnel.

1. **Data Record** -- The data record shall include the following:

- a. Unique sample or field measurement code;
- b. Sampling or field measurement location and sample or measurement type;
- c. Sampling or field measurement raw data;
- d. Laboratory analysis ID number;
- e. Property or component measured; and
- f. Results of analysis (e.g., concentration).

2. **Tabular Displays** -- The following data shall be presented in tabular displays:

- a. Unsorted (raw) data;
- b. Results for each medium, or for each constituent monitored;
- c. Data reduction for statistical analysis;
- d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and
- e. Summary data.

3. **Graphical Displays** -- The following data shall be presented in geographical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.);

- a. Display sampling location and sampling grids;



- b. Indicate boundaries of sampling area and areas where more data are required;
- c. Display levels of contamination at each sampling location;
- d. Display geographical extent of contamination;
- e. Display contamination levels, averages, and maximum;
- f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and
- g. Indicate features affecting intramedia transport and show potential receptors.

**D. Health and Safety Plan**

Respondent shall prepare a Health and Safety Plan. The Health and Safety Plan is subject to review and comment, but not approval, by the EPA.

- 1. Major elements of the Health and Safety Plan shall include:
  - a. Facility description including availability of resources such as roads, water supply, electricity and telephone service;
  - b. Description of the known hazards and evaluation of the risks associated with the incident and with each activity conducted;
  - c. A listing of key personnel and alternates responsible for site safety, response operations, and for protection of public health;
  - d. Delineation of work areas;
  - e. Description of levels of protection to be worn by personnel in work areas;
  - f. Establishment of procedures to control site access;
  - g. Description of decontamination procedure for personnel and equipment;
  - h. Establishment of site emergency procedures;

- i. Emergency medical care for injuries and toxicological problems;
  - j. Description of requirements for an environmental surveillance program;
  - k. Routine and special training required for responders; and
  - l. Establishment of procedures for protecting workers from weather-related problems.
- 2. The facility Health and Safety Plan shall be consistent with:
  - a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);
  - b. EPA Order 1440.1 - Respiratory Protection;
  - c. EPA Order 1440.3 - Health and Safety Requirements for Employees Engaged in Field Activities;
  - d. Facility Contingency Plan;
  - e. EPA Standard Operating Safety Guide (1984);
  - f. OSHA regulations particularly at 29 C.F.R. Parts 1910 and 1926;
  - g. State and local regulations; and
  - h. Other EPA guidance as provided.
- E. **Community Relations Plan** -- Respondent shall prepare a plan for the dissemination of information to the public regarding investigation activities and results.
- F. **Risk Assessment Workplan** -- Respondent shall prepare a risk assessment workplan based on, and in accordance with Risk Assessment Guidance for Superfund (RAGs).
- IV. **TASK III: Facility Investigation (RFI)** -- The RFI shall include those investigations necessary to meet the purpose of the RFI including: characterize the Facility (Environmental Setting); define the source(s) of contamination (Source Characterization); define the degree and extent of contamination (Contamination Characterization); and identify actual or potential receptors. The investigations should result in data of adequate

technical quality to support the completion of a risk assessment and if necessary the development and evaluation of a corrective measure alternative or alternatives during the Corrective Measures Study. As indicated in Section I above, characterization activities will focus on filling data gaps necessary to evaluate the protection of human health and the environment based on the conceptual site model. Consequently, EPA accepted or otherwise validated data collected previously may fulfill some of the specific information requirements identified below without additional investigation. All sampling and analyses shall be conducted in accordance with the QAPP. All sampling locations shall be documented in a log and identified on a detailed site map.

**A. Environmental Setting** – The RFI shall collect information to supplement and verify existing information on the environmental setting at the Facility and characterize the following, as applicable to meet the purpose of the RFI:

1. **Hydrogeology** – The RFI shall evaluate hydrogeologic conditions at the Facility and provide the following information:
  - a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the Facility, including:
    - (1) Regional and facility specific stratigraphy -- description of strike and dip, identification of stratigraphic contacts;
    - (2) Structural geology -- description of local and regional structural features (e.g. folding, faulting, tilting, jointing, etc.);
    - (3) Depositional history;
    - (4) Identification and characterization of areas and amounts of recharge and discharge;
    - (5) Regional and facility specific ground water flow patterns; and
    - (6) Characterize seasonal and temporal variations in the ground water flow regime.
  - b. An analysis of any topographic features that might influence the ground water flow system.

- c. Based on field data, test, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the Facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
  - (1) Hydraulic conductivity and porosity (total and effective);
  - (2) Lithology, grain size, sorting, degree of cementation;
  - (3) An interpretation of hydraulic interconnections between saturated zones; and
  - (4) The attenuation capacity and mechanisms of the natural earth materials (i.e., ion exchange capacity, organic carbon content, mineral content, etc.).
- d. Based on field studies and cores, structural geology and hydrogeologic cross-sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:
  - (1) Sand and gravel deposits in unconsolidated deposits;
  - (2) Zones of fracturing or channeling in consolidated or unconsolidated deposits;
  - (3) Zones of higher or lower permeability that might direct and restrict the flow of contaminants;
  - (4) The uppermost aquifer -- geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs; and
  - (5) Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.
- e. Based on data obtained from groundwater monitoring wells and piezometers, a representative description of water level or fluid pressure monitoring including:
  - (1) Water level contour and/or potentiometric maps;

- (2) Hydrologic cross-sections showing vertical gradients;
    - (3) The flow system, including the vertical and horizontal components of flow; and
    - (4) Any temporal changes in hydraulic gradients, (e.g., seasonal influences).
  - f. A description of anthropogenic influences that may affect the hydrogeology of the site, identifying:
    - (1) Active and inactive local water-supply and production wells with an approximate schedule of pumping; and
    - (2) Hydraulic structures (pipelines, French drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).
2. Soils -- The RFI shall characterize the soil and bedrock units in the vicinity of the contaminant release(s). Such characterization may include, the following information:
- a. SCS soil classification;
  - b. Surface soil distribution;
  - c. Soil profile, including ASTM classification of soils;
  - d. Transects of soil stratigraphy;
  - e. Hydraulic conductivity (saturated and unsaturated);
  - f. Relative permeability;
  - g. Bulk density;
  - h. Porosity;
  - i. Soil sorptive capacity;
  - j. Cation exchange capacity (CEC);
  - k. Soil organic content;

- l. Soil pH;
  - m. Particle size and distribution;
  - n. Depth of water table;
  - o. Moisture content;
  - p. Effect of stratification on unsaturated flow;
  - q. Infiltration;
  - r. Evapotranspiration;
  - s. Storage capacity;
  - t. Vertical flow rate; and
  - u. Mineral content.
- 3. Air -- The RFI shall characterize the climate in the vicinity of the Facility. Such information may include:
  - 1. A description of the following parameters:
    - 1. Annual and monthly rainfall averages;
    - 2. Monthly temperature averages and extremes;
    - 3. Wind speed and direction;
    - 4. Relative humidity/dew point;
    - 5. Atmospheric pressure;
    - 6. Evaporation data;
    - 7. Development of inversions; and
    - 8. Climate extremes that have been known to occur in the vicinity of the Facility, including frequency of occurrence.
- 2. **Source Characterization** -- The RFI shall use existing EPA accepted or otherwise validated data or collect additional analytical data to characterize

potential source areas (e.g. SWMUs, AOCs) including: type; quantity; physical form; disposition; and facility characteristics affecting release (engineered barriers). This shall include the following specific characteristics, as available and applicable to meet the purpose of the RFI, for each source area:

1. Unit/Disposal Area Characteristics:

1. Location of unit/disposal area;
2. Type of unit/disposal area;
3. Design features;
4. Operating practices (past and present);
5. Period of operation;
6. Age of unit/disposal area;
7. General physical condition; and
8. Method used to close the unit/disposal area.

2. Waste Characteristics:

1. Type of waste placed in (or released by) the unit;
  1. Hazardous waste classification, e.g. ignitable, corrosive, toxicity characteristic (EP and TCLP) listing;
  2. Quantity of waste per unit or disposal area; and
  3. Chemical composition.
2. Physical and chemical characteristics;
  1. Physical form (solid, liquid, gas);
  2. Physical description (e.g. powder, oily sludge);
  3. Temperature;
  4. pH;

5. General chemical class (e.g., acid, base, solvent);
  6. Molecular weight;
  7. Density;
  8. Boiling point;
  9. Viscosity;
  10. Solubility in water;
  11. Cohesiveness of the waste;
  12. Vapor pressure; and
  13. Flash point.
3. Migration and dispersal characteristics of the waste;
    1. Sorption;
    2. Biodegradability, biotransformation;
    3. Photodegradation rates;
    4. Hydrolysis rates; and
    5. Chemical transformation, particularly decomposition products.

3. **Contamination Characterization** — The RFI shall present additional analytical data on groundwater, soils, surface water, and sediment contamination to supplement existing EPA accepted or otherwise validated data for the Facility, as applicable to meet the purpose of the RFI. The data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes on-site and off-site. Data shall include date and location of sampling, media sampled, depths of samples, and concentrations of contaminants found. The RFI shall address the following types of contamination at the Facility:

1. **Groundwater Contamination** -- The RFI shall include a Groundwater Investigation to supplement existing groundwater data as necessary to



characterize any plumes of contamination at the Facility. This investigation at a minimum will provide the following information:

1. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the Facility;
  2. The horizontal and vertical direction of contamination movement;
  3. The velocity of contaminant movement;
  4. The horizontal and vertical concentration profiles of 40 C.F.R. Part 261, Appendix VIII constituents in the plume(s) which are reasonably expected to be present in any hazardous waste or hazardous waste constituents managed at the Facility. The Appendix VIII constituents to be profiled must include potential degradation products;
  5. An evaluation of factors influencing the plume movement; and
  6. An extrapolation of future contaminant movement.
2. Soil Contamination -- The RFI shall include an investigation to supplement existing soil data as necessary to characterize the contamination of soil and rock units above the water table in the vicinity of the contaminant release. The investigation shall provide the following information:
1. A description of the horizontal and vertical extent of contamination;
  2. A description of contaminant and soil chemical properties within the contaminant source area and plume, including contaminant concentration, solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis and/or oxidation and other factors that might affect contaminant migration and transformation.
  3. Specific contaminant concentrations;
  4. The velocity and direction of contaminant movement; and
  5. An extrapolation of future contaminant movement.

3. **Surface Water and Sediment Contamination** -- The RFI shall include an investigation to supplement existing data as necessary to characterize contamination in surface water bodies in the area of the Facility resulting from contaminant releases at the Facility. The investigation shall include, but not be limited to, the following information:
  1. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the Facility, and the extent of contamination in underlying sediments;
  2. The horizontal and vertical direction of contaminant movement;
  3. The contaminant velocity;
  4. An evaluation of the physical, biological and chemical factors influencing contaminant movement;
  5. An extrapolation of future contaminant movement; and
  6. A description of the chemistry of the contaminated surface waters and sediments, including pH, total dissolved solids, specific contaminant concentrations, etc.

Respondent shall document the procedures used in making the above determinations.

4. **Potential Receptors/Risk Assessment** -- The RFI shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the Facility. The following characteristics shall be identified, as applicable to meet the purpose of the RFI:
  1. **Current local uses and possible future uses of ground-water:**
    1. Type of use (e.g., drinking water source, municipal or residential, agricultural, domestic/non-potable, and industrial); and
    2. Location of groundwater users including wells and discharge areas.
  2. **Current local uses and possible future uses of surface waters draining the Facility:**
    1. Domestic and municipal (e.g., potable and lawn/gardening watering);

2. Recreational (e.g., swimming, fishing);
  3. Agricultural;
  4. Industrial; and
  5. Environmental (e.g., fish and wildlife propagation).
3. Human use of or access to the Facility and adjacent lands, including:
    1. Recreation;
    2. Hunting;
    3. Residential;
    4. Commercial; and
    5. Zoning.
  4. A brief description of the biota in surface water bodies on, adjacent to, or affected by the Facility.
  5. A brief description of the ecology overlying and adjacent to the Facility.
  6. A brief description of any endangered or threatened species at or near the Facility.

A risk assessment will be completed for the Facility-specific contaminant exposure pathways identified in the conceptual site model. The risk assessment will be submitted to the Agency as part of the RFI Report.

- V. **TASK IV: RFI Report** – The RFI Report shall include analyses and summary of all Facility investigations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, the potential threat to human health and/or the environment, and to support the Corrective Measures Study, if necessary.
  1. **Data Analysis** – The RFI Report shall include an analysis of all facility investigation data outlined in Task IV and prepare a report on the type and extent, both horizontal and vertical, of contamination at the Facility including sources and migration pathways. The RFI Report shall include a description of the extent of

contamination (qualitative/quantitative) in relation to background levels indicative of the area, as well as indicate the level of certainty of its conclusions.

## **2. Protection Standards**

1. Groundwater Protection Standards -- For regulated units, the RFI Report shall provide information to support EPA's selection/development of Groundwater Protection Standards for all of the Appendix VIII constituents found in the groundwater during the RFI (Task IV).
  - (1) The Groundwater Protection Standards shall consist of:
    - (a) For any constituents for which a maximum contaminant level (MCL) is established by the EPA Office of Water, the respective MCL value if the background level of the constituent is below that MCL; or
    - (b) The background level of that constituent in the groundwater; or
    - (c) An EPA approved Alternate Concentration Limit (ACL).
  - (2) Information to support the Agency's subsequent selection of ACLs shall be developed by Respondent in accordance with EPA guidance. For any proposed ACLs Respondent shall include a justification based upon the criteria set forth in 40 C.F.R. § 264.94(b).
2. Other Relevant Protection Standards-- The RFI shall identify all relevant and applicable standards for the protection of human health and the environment as appropriate for the facility specific conceptual site model (e.g., National Ambient Air Quality Standards, Federally-approved state water quality standards, EPA Region IX Preliminary Remediation Goals etc.).

**VI. TASK V: Reports** - Respondent shall at a minimum provide EPA with signed, quarterly progress reports containing the following information:

1. A description of the RFI activities completed during the reporting period;
2. Summaries of all contacts, during the reporting period, with representatives of the local community, public interest groups or State government concerning RFI activities at the Facility;

3. Summaries of all problems or potential problems encountered during the reporting period;
4. Actions being taken to rectify problems;
5. Changes in project coordinator, principal contractor, laboratory, and/or consultant during the reporting period;
6. Projected work for the next reporting period; and
7. Copies of laboratory/monitoring data received and/or generated during the reporting period.
8. EPA identification number (IAD065218737) on the cover or title page of all submittals

**VII. Task VI. Schedule for Report Submittal** - Respondent shall develop and submit the following reports in accordance with the schedule below:

<u>Submittal</u>	<u>Due Date</u>
Current Conditions Report (Task I)	120 days after the effective date of the Order
RFI Workplan (Task II)	60 days after the approval of the CCR
RFI Report (Task IV)	90 days following completion of RFI activities
Progress Reports on Tasks I through IV (Task V)	Beginning on the first full quarter following the effective date of the Order, and throughout the period that the Order is effective

### ATTACHMENT 3

**Scope of Work for a Corrective Measures Study  
at  
Wellman Dynamics Corporation  
Creston, Iowa**

- I. PURPOSE** - The purpose of the Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives if necessary and to recommend the corrective measure or measures to be taken at Respondent's facility based on the results of the RFI. Respondent will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.
- A. SCOPE** - The Corrective Measure Study consists of three tasks:
- |           |                  |
|-----------|------------------|
| Task I:   | CMS Work Plan;   |
| Task II:  | CMS Report; and  |
| Task III: | Progress Reports |
- II. TASK I: CMS Work Plan** - The CMS Work Plan shall contain the following elements:
- A. Purpose of the Corrective Measures Study** - A site-specific description of the overall purpose of the Corrective Measure Study;
- B. Corrective Action Objectives** - A statement of the corrective action objectives, and the area(s) to be remediated based on conclusions developed from investigations and the risk assessment summarized in the RFI Report.
- C. Initial Screening of Corrective Measure Technologies** - This initial screening process is intended to eliminate those technologies which have severe limitations for a given set of waste and site-specific conditions or which have inherent technology limitations. The CMS Work Plan shall include a description of any technologies that in light of the results of the RFI may be applicable at the Facility. The CMS Workplan shall include a detailed description of how each of these technologies compare with the criteria set forth below and shall identify those technologies that, based on these criteria, are infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that would not achieve the corrective action objective(s) within a reasonable time period. The criteria are as follows:
- 1. Site Characteristics** - Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies

which are clearly precluded by site characteristics should be eliminated from further consideration.

2. **Waste Characteristics** - Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration.
3. **Technology Limitations** - During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

**D. Identification of Corrective Measure Alternatives** - Respondent shall develop site-specific corrective measure alternative or alternatives from the corrective measure technologies and/or corrective measure alternatives which pass the screening process described above. Respondent is to rely on good engineering practice and analysis of the Initial Screening of Corrective Measure Technologies to determine which technologies appear most suitable for the site and meet the corrective action objectives. The alternative or alternatives developed should represent a workable number of options that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies.

**E. CMS Report Outline** - A proposed outline for the CMS Report including a description of how information will be presented; and

**F. Project Management Approach** - A description of overall project management including overall approach, levels of authority (including an organization chart), lines of communication, project schedules, budget, personnel, and qualification of personnel performing and directing work.

**III. TASK II: CMS Report - Evaluation of the Corrective Measure Alternative or Alternatives** - The CMS Report shall be prepared in accordance with the EPA-approved CMS Work Plan, which is outlined in Task I above, and will evaluate the alternative(s) for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action. At a minimum, the CMS Report shall include the following components:

**A. Corrective Action Objectives** - This section shall briefly present and discuss the

EPA-approved Corrective Action Objectives resulting from the performance of Task VI above.

- B. Identification of the Corrective Measure Alternative or Alternatives -** Corrective Measure Alternative or Alternatives that were identified in the CMS Work Plan for further evaluation shall be presented and described.
- C. Evaluation of the Corrective Measure Alternative or Alternatives -** For each remedy which passes through the initial screening in Task I above, including those situations when only one remedy is being proposed, the CMS Report shall provide detailed documentation of how the potential remedies will comply with each of the general standards listed below.
1. Protect human health and the environment;
  2. Attain media cleanup standards set by the implementing agency;
  3. Control the source of releases;
  4. Comply with any applicable standards for management of wastes;
  5. Other factors for selecting the final remedy.

In evaluating remedial alternatives for compliance with each of these standards, Respondent should consider the specific issues outlined in the following discussion.

1. Protect Human Health and the Environment

Corrective action remedies must be protective of human health and the environment and, therefore, a discussion should be provided of how each corrective measure alternative meets this standard. Some remedies may require supplemental measures (such as alternate drinking water supplies or fencing) that are needed to make the remedy protective, but are not directly related to media cleanup, source control, or management of wastes. In the latter case, Respondent shall include a discussion on what types of short term or supplemental measures that are appropriate for the particular facility in order to meet this standard.

2. Attain Media Cleanup Standards Set by the implementing Agency

Remedies will be required to attain media cleanup standards set by the implementing agency which may be derived from existing state or federal regulations (e.g. groundwater standards) or other standards. As part of the necessary information for satisfying this requirement, Respondent shall address whether the potential remedy will achieve the preliminary remediation objective as identified by the implementing agency as well as other, alternative remediation objectives that may be proposed by



Respondent. Respondent shall also include an estimate of the time frame necessary for each alternative to meet these standards.

3. Control the Sources of Releases

A critical objective of any remedy must be to stop further environmental degradation by controlling or eliminating, to the extent practicable, further releases that may pose a threat to human health or the environment. As part of the CMS Report, Respondent shall address the issue of whether source control measures are necessary, and if so, the type of actions that would be appropriate. Any source control measure proposed should include a discussion on how well the method is anticipated to work given the particular situation at the facility and the known track record of the specific technology.

4. Comply with any Applicable Standards for Management of Wastes

Respondent shall include a discussion of how the specific waste management activities will be conducted in compliance with all applicable state or federal regulations (e.g., closure requirements, land disposal restrictions).

5. Other Factors for Selecting the Final Remedy

There are five factors that will be considered, as appropriate, by the implementing agency in selecting/approving a final remedy from those remedies that meet the four standards listed above. These factors represent a combination of technical measures and management controls for addressing the environmental problems at the facility. The five decision factors include:

- a. Long-term reliability and effectiveness;
- b. Reduction in the toxicity, mobility or volume of wastes;
- c. Short-term effectiveness;
- d. Implementability; and
- e. Cost.

Respondent is to provide an evaluation of how each of the remedial alternatives meeting the four general standards also comply with each of these five selection factors. This evaluation is to provide the following general information:

- a. Long-term Reliability and Effectiveness

- i. Reliability - Demonstrated and expected reliability is a way of assessing the risk and effect of failure. Respondent should consider whether the technology or combination of technologies have a documented history of reliability under analogous site conditions and whether failure of any one component of the technology could have an immediate impact on receptors. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. Therefore, the reliability evaluation should also take operation and maintenance requirements into consideration.
- ii. Effectiveness - Effectiveness shall be evaluated in terms of ability to perform intended functions. The effectiveness of each corrective measure shall be determined either through design specifications or by performance criteria. Any waste or site specific characteristics which could potentially impede effectiveness shall be considered. Most corrective measure technologies deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure alternative should be evaluated in terms of the projected useful life of the overall alternative and of its component technologies. Useful life is defined as the length of time the level of effectiveness can be maintained.

b. Reduction in the Toxicity, Mobility, or Volume of Wastes

As a general goal and where practicable and appropriate, remedies will be preferred that employ techniques that are capable of eliminating or substantially reducing the inherent potential for the wastes or contaminated media at the facility to cause future environmental releases or other risks to human health or the environment. Estimates of how much the corrective measure alternatives will reduce contaminant toxicity, volume, and/or mobility should be provided. This may be done through a comparison of initial site conditions to expected post-corrective measure conditions.

c. Short-term Effectiveness

Short-term effectiveness may be an issue of concern when remedial activities will be conducted in densely populated areas or where waste characteristics are such that risks to workers or to the environment are high and special protective measures are needed. Possible factors to consider include fire, explosion, exposure to hazardous substances and potential threats associated with treatment, excavation, transportation, and redisposal or containment of waste material.

d. Implementability

Some technologies will require state or local approvals prior to construction, which may increase the time necessary to implement the remedy. In other cases, state or local restrictions or concerns may necessitate eliminating or deferring certain technologies or remedial approaches from consideration. Information to consider when assessing Implementability may include:

- i. The administrative activities needed to implement the corrective measure alternative (e.g. permits, rights of way, off-site approvals, etc.) And the length of time these activities will take;
- ii. The constructability, time for implementation, and time for beneficial results;
- iii. The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and

materials; and

iv. The availability of prospective technologies for each corrective measure alternative.

e. Cost

The relative cost of a remedy may be an appropriate consideration, especially in those situations where several different remedial alternatives will offer equivalent protection of human health and the environment, but may vary widely in cost. However, in those situations where only one remedy is being proposed, the issue of cost would not need to be considered. The cost estimate shall include both capital and operation and maintenance costs.

i. Capital costs consist of direct (construction, equipment, land and development costs, and buildings and services costs) and indirect (engineering expenses, legal fees and licenses or permit costs, startup and shakedown costs, and contingency allowances).

ii. Operation and Maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The operation and maintenance cost shall consider the following components: operating labor costs, maintenance materials and labor costs, auxiliary materials and energy, sampling/analysis costs, waste management/disposal/treatment costs, administrative costs, insurance, taxes and licensing costs, maintenance reserve and contingency funds, and any other anticipated costs.

**E. Recommended Corrective Measure or Measures -** The CMS Report shall include Respondent's recommendation, with justification, of the appropriate corrective measure alternative based upon the criteria discussed above. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. This recommendation shall also include:

1. Description of the corrective measure or measures and rationale for selection;
2. Performance expectations;

3. Preliminary design criteria and rationale;
4. General operation and maintenance requirements; and
5. Long-term monitoring requirements.
6. Design and Implementation Precautions;
  - a. Special technical problems;
  - b. Additional engineering data required;
  - c. Permits and regulatory requirements;
  - d. Access, easements, right-of-way;
  - e. Health and safety requirements; and
  - f. Community relations activities.
7. Cost estimates and schedules;
  - a. Capital cost estimates;
  - b. Operation and maintenance cost estimate; and
  - c. Project schedule (design, construction, operation).

**IV. TASK III: Progress Reports** - Respondent shall at a minimum provide EPA with signed, quarterly progress reports containing the following information:

- A. A description of the CMS activities completed during the reporting period;
- B. Summaries of all changes made to the Corrective Measures Study during the reporting period;
- C. Summaries of all contacts, during the reporting period, with representatives of the local community, public interest groups or State government concerning CMS activities at the site;
- D. Summaries of all problems or potential problems encountered during the reporting period;
- E. Actions being taken to rectify problems;
- F. Changes in project coordinator, principal contractor, laboratory, and/or consultant during the reporting period;
- G. Projected work for the next reporting period; and

- H. Copies of laboratory/monitoring data received and/or generated during the reporting period.
- I. The EPA facility identification number (IAD065218737) on the cover or title page.
- V. **Schedule for Report Submittal** - Respondent shall develop and submit the following reports in accordance with the schedule below:

<u>Submittal</u>	<u>Due Date</u>
Draft Corrective Measures Work Plan (Task I)	90 days after EPA approval of the final RFI Report
Final Corrective Measures Work Plan (Task I)	60 days after receipt of EPA comments on the draft CMS Work Plan
Draft Corrective Measures Report (Task II)	90 days after EPA approval of the final CMS Work Plan
Final Corrective Measures Report (Task II)	60 days after receipt of EPA comments on the draft CMS Report
Progress Reports on Tasks I and II (Task III)	Beginning on the first full quarter following the effective date of the Order, and throughout the period that the Order is effective